TEXTILE TECHNOLOGY DIGEST

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Abstracts

(An explanation of the classification used in the Digest was published in the January (1949) issue (Vol. 6, No. 1) on the page facing the Index to Authors.)

FIBERS A

Natural fibers A 1

Coir mat and matting industry in Germany. N. C. Haydon & H. C. Smith. BIOS Final Rept. 1285, Item 22. n.d. 13 p. PB L 79439. *Bibl. Sci. Ind. Reports 6*, 982 (Sept. 12, 1947). Microfilm $1.00, Photostat $1.00.

The object was to report on the production methods of the German coir mat and matting industry and to examine the machinery used. Eight factories were visited and a brief report of each visit is given together with a summary. Photographs of five looms are included.

Method of determining hair weight of cotton. H. E. King & J. M. Munro, Cotton Experiment Station, Barberton, South Africa. *Empire Cotton Growing Rev. 25*, 271-6 (Oct. 1948).

Hair weight of seed cotton can be determined rapidly by detaching a small tuft of 40-50 hairs from the combed seed in such a way that the hairs are spaced thinly enough to permit counting without further arrangement. The hairs are placed across a specially designed holder and counted before cutting. The holder consists of 2 velvet covered bars, 3 in. long, separated by a gap over which the hairs are stretched. Hairs from 10 seeds may be placed on the holder at one time. When filled, the holder is placed on the stage of a microscope arranged to project an image of the hairs on a screen for counting. The hairs are then rolled into a bundle and cut to 15 mm. length for weighing. This method is said to give a higher degree of accuracy, and also has the advantage of materially reducing the time required for such tests.

Percentage of short hairs as a character of importance in Barberton cotton samples. H. E. King, Cotton Experiment Station, Barberton, South Africa. *Empire Cotton Growing Rev. 25*, 277-8 (Oct. 1948).

It was observed that the yarn strength of cotton samples from the Barberton station bore little apparent relation to the measured hair characters normally regarded as important guides to quality.

Spinning tests for various seasons indicated that neither length nor fineness had as much bearing on spinning quality as is normally anticipated. A statistical analysis, using the partial correlation method, was made, and it was found that the apparent lack of relationship resulted from the mutually cancelling effect of 2 characters, hair weight and percentage of short hairs, varying simultaneously and acting in contrary directions, on yarn strength. It is suggested that the upsetting effect of varying percentage of short hairs may be found to explain other instances of apparent lack of relationship between fineness and yarn strength. In the case of Barberton cottons, it is clear that greater attention must be paid to uniformity of length. A method of gaging the proportion of short hairs is now under trial.

Summary Of Fiber And Spinning Test Results For Cotton Varieties Grown By Selected Cotton Improvement Groups; Crop Of 1948. Washington, U. S. Dept. Agriculture, Production and Marketing Administration, Cotton Branch, Jan. 1949. 27 pp.

This report on fiber and manufacturing properties of the principal varieties produced commercially by cotton improvement groups summarizes the results obtained from tests of the third consecutive crop. Recent data are included for cottons harvested late in the season as well as the results that were published on a monthly basis from August through November 1948. The earlier publications presented the test data on a geographical basis, whereas in this summary they are generally grouped according to variety. This arrangement affords a more convenient basis for comparing variety performance in various areas and at the same time permits regional comparisons of quality because the production of a specified variety is usually confined to certain geographical areas. Reporting the data in this form should facilitate its use by cotton merchants, manufacturers, and farmers in communities that are organized to improve the quality of their cotton and to market it advantageously. Test results will be found in this report for varieties of cotton grown in many of the areas that were included in similar

studies on the 1946 and 1947 crops. The testing of the 1948 crop is the first in which data have been obtained to show the changes in cotton quality that take place at 3 stages of harvesting in the various market areas. Stages of harvesting covered herein are early, midseason, and late. Reports on previous crops have been based on either one or 2 harvesting periods. An indication of the variation in fiber and spinning quality of a specified variety grown in the same area for successive years is provided, however, by making comparisons of results presented in reports for the 3 consecutive crop years. —Introduction.

Chemical retting process of producing bast fibers. Jacob J. Zeehuisen (to the Attorney General of the U. S.). USP 2 457 856, Jan. 4, 1949.

Bast fibers, such as flax, hemp, jute, and the like are produced by a chemical retting process which comprises the treatment of the materials from 1 to 1½ hrs. by immersing them in a bath containing about 0.5% of hydrogen peroxide, 0.5% of ammonium phosphate, and 1% of urea at about 50°C, raising the temperature of the bath and materials to 80-100°C to break up the materials, and subsequently removing the xyloid constituents from the material treated by mechanical means.

Relationships between the growth factors of plants and the fibers and the fiber quality. G. H. Veitman. From the former Kaiser-Wilhelm-Institut for Bast Fiber Research in Mährisch-Schönberg. *Melliand Textilber 28,* 405-08 (Dec. 1947); *29,* 4-6 (Jan. 1948); *29,* 42 (Feb. 1948); *in German.*

Published information on effect of climate, soil, water, and fertilizing elements on the qualities of flax is reviewed. Data are presented which show the ash content, the content of non-fibrous material, and the yarn number in relation to the variety of flax, and the place and year in which it was grown. It is concluded that when an abundance of moisture is available to the plant during growth, the amount of non-fibrous material in the fiber bundle is reduced and that this in turn increases the extent to which the fiber bundle can be distintegrated, and also increases the fineness of the fibers, the strength of the bundle, and other properties. Inorganic substances not used to build the fiber cells are stored in this non-fibrous part, and the ash content is proportional to this non-fibrous material. Ash content is therefore a measure of the spinning properties of the flax.

Cross linkages in wool. E. Elöd & H. Zahn, Inst. für Textilchemie in Badenweiler. *Melliand*

Textilber. 29, 17-19 (Jan. 1948); *in German.*

The improvement in the alkali resistance of wool by treating it with butanediol-dichlormethyl ether, discovered by Kurst, was further investigated, using untreated wool from the same source. The elongation at break of alkylized wool is reduced and the tensile strength decreased slightly. The work of extension is appreciably increased. The cystine compounds do not participate in the reaction appreciably. It was shown that the increased alkali resistance is due to newly formed sulfur-free compound and not to a decreased reactivity of the cystine bridge on treatment with alkali. Measurement of super-shrinkage in different media was found to be a sensitive test for newly formed cross linkages. The decrease in super-shrinkage discovered by the authors corresponds to an increased stability in technical finishing processes.

WOOL TRADE DIRECTORY OF THE WORLD (1947-8-9). London, Thos. Skinner & Co. (Publishers) Ltd., 1948. Price: 40s.

This volume . . . is much more than a directory giving exhaustive lists of firms. The contents cover practically every phase of activity from raw materials to the finished product. Details are also included relating to makers and merchants of textile machinery, power plants and accessories, and general mill supplies. Information is rapidly found by an excellent system of indexing and cross-reference. Much valuable data are given regarding the world's wool production, distribution and consumption, also a survey of notable events in the industry since the end of the war, and statistics relating to the volume, value and disposal of clips in principal wool-growing countries. Other matters dealt with are exports and imports, wages, etc. The directory will be extremely useful to everyone connected with the industry.—*Textile Mfr. 74,* 599 (Dec. 1948).

Fibrous material moisture regain obtaining method. Wilfred N. Hadley (to Parks & Woolson Machine Co.). Can. P. 445 269, Nov. 25, 1947.

A method of rapidly impregnating with moisture and effecting normal moisture regain in fibrous material or cloth containing less than normal moisture content, consists in subjecting the moisture-deficient fibrous material directly to the action of damp steam and immediately thereafter subjecting the material to a sub-zero F atmosphere for a time period sufficient to chill the material and solidify and set the contained moisture derived from the steam.

Textiles through the microscope. Inez V. de Gruy, Southern Regional Research Laboratory. *Sci. Monthly 48*, 61-5 (Jan. 1949).

The use of the microscope to observe the penetration of substance used to impregnate textile materials, the effect of mercerization and the effect of swelling with cupric ammonium hydroxide and by carboxymethylation is discussed; methods of distinguishing mature from immature fibers, and for identifying wool, rayon and cotton fibers in blends are described and illustrated. There is a list of 11 references.

Artificial fibers A 2

All-metal spinning nozzle for rayon or cellulose fiber. Deutsche Gold- und Silber-Scheideanstalt Vormals Roessler. Registered design 1522 278/29a, Oct. 16, 1941. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 690-693. *Bibl. Sci. Ind. Reports 6*, 844 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

American Viscose develops continuous viscose rayon process. Anon. *Textile Age 12*, 50-1 (Dec. 1948).

A new filamatic continuous process for the production of viscose rayon yarn is briefly discussed. It is claimed that yarns spun by the new process exhibit uniformity in dyeing qualities and physical characterstics; and yarns of various lusters, twist ratios, etc. can be produced in a matter of seconds.

Apparatus for guiding and threading fibers. Wm. F. Holtschulte & Saml. D. Philipps (to Owens-Corning Fiberglas Corp.). USP 2 457 777, Dec. 28, 1948.

This invention provides means for the rapid threading of artificial fibers through thread guides. The device comprises a grooved guide and comb which aligns a number of fibers from laterally spaced orifices, and feed rolls which draw the fibers through the grooves of the comb and through correspondingly spaced channels in the thread guide.

Arrangement for connecting a large number of spinning nozzles with many apertures to spinning pipes. Deutsche Gold- und Silber-Scheideanstalt Vormals Roessler. Registered design 1522 447/29a. Apr. 24, 1941. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 717-720. *Bibl. Sci. Ind. Reports 6*, 844 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Arrangement for continuous after-treatment and drying of synthetic fibers. Vereinigte Glanzstoff-

Fabriken A. G. Registered design 1522 866/29a. Nov. 30, 1940. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 800-802. *Bibl. Sci. Ind. Reports 6*, 845 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Arrangement for the continuous pressure filtration of solutions (e.g., viscose). Kurmärkische Zellwolle und Zellulose A. G., U. A. Kunstseidefabriken. Registered design 1523 209/12d. Nov. 12, 1940. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 849-853. *Bibl. Sci. Ind. Reports 6*, 846 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Cabling spindle or pot spindle operated by means of an electric motor. Carl T. Pastor. Ger. patent application P 79 462, July 18, 1939. FIAT Microfilm Reel C-157. PB L 74390; frames 3208-3210. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Addition to patent application P 73 590 VII/76c.

Cellulose derivative composition. Claude G. Bonard. Can. P. 445 034, Nov. 11, 1947.

This invention provides a composition of matter comprising a cellulose derivative selected from the group consisting of cellulose esters and cellulose ethers and, to reduce the destructive action of ultra-violet light on the cellulose derivative, an ester, of low volatility, of an aromatic hydroxy carboxylic acid with a hydroxy compound selected from the group consisting of phenols, alcohols containing an aromatic nucleus, and cycloaliphatic alcohols, the proportion of the ester being less than 15% based on the weight of the cellulose derivative.

Fibre cross sections and their significance in rayon research. Anon. *Silk & Rayon 22*, 986-8, 990 (July, 1948).

This is a survey of the ways in which microscopical examination of fiber cross sections is used to assist in the manufacture and processing of rayon materials.

German patent applications. Class 29a: Production and processing of textile fibers. Reichspatentamt, Berlin. FIAT Microfilm Reel BB 108; frames 4274-5857. 166 items. 1880-1939. 1583 f. PB L 70330. *Bibl. Sci. Ind. Reports 6*, 749 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $158.50; *in German.*

PB L 70330-S. Abstracts *in English* on the above item prepared by FIAT. 166 p. Microfilm $4.00, Photostat $12.00.

German patents. Class 29a, Groups 6 and 7: Mechanical production of spun fibers. Reichspatentamt, Berlin. FIAT Microfilm Reel BB 99; frames 4832-5718. 289 items. 1882-1942. 886 f. PB L 70329. *Bibl. Sci. Ind. Reports 6*, 749 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $89.00; *in German.*

PB L 70329-S. Abstracts *in English* on the above item prepared by FIAT. 289 p. Microfilm $6.00, Photostat $20.00.

Large spinning nozzle. Detusche Gold- und Silber-Scheideanstalt, Vormals Roessler. Registered design 1522 011/29a. Oct. 17, 1940. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 588-593. *Bibl. Sci. Ind. Reports 6*, 842 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Mechanical or electric drive for twisting spindles, spinning cans or other fast revolving bodies. Siemens-Schuckertwerke A. G. Ger. patent application S 136 438, Mar. 22, 1939. FIAT Microfilm Reel C-157. PB L 74390; frames 3418-3422. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawing included.

Nozzle for spinning synthetic fibers. Deutsche Gold- und Silberscheide-Anstalt. Vormals Roessler. Registered design 1521 838/29a. Sept. 2, 1940. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 497-501. *Bibl. Sci. Ind. Reports 6*, 841 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Patent applications from the photo and artificial silk patent section. I. G. Farbenindustrie A. G. FIAT Microfilm Reel Patents 141-146. *Bibl. Sci. Ind. Reports 6*, 741-42 (Aug. 22, 1947). Microfilm $6.00 each; *in German.*

PB L 19920. 1943-1945. 746 f.
PB L 19921. 1942-1943. 988 f.
PB L 19922. 1938, 1940-1942. 1043 f.
PB L 19923. 1939-1941. 1094 f.
PB L 19924. 1940-1941. 1257 f.
PB L 19925. 1939-1940, complete with index compiled by the Hoechst Patent Office. 1058 f.

Patent applications pertaining mainly to the photographic and textile industry. I. G. Farbenindustrie A. G. FIAT Microfilm Reel E 6; frames 1-926. 248 items. 1937-1946. 926 f. PB L 70411. *Bibl. Sci. Ind. Reports 6*, 752 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $93.00; *in German.*

PB L 70411-S. Abstracts *in English* on the above item prepared by FIAT. 248 p. Microfilm $5.00, Photostat $17.00.

Patents dealing with amino acids and machinery for production and subsequent treatment of rayon. Reichspatentamt, Berlin. FIAT Microfilm Reel BB 91; frames 1112-2098. 314 items. 986 f. PB L 70327. *Bibl. Sci. Ind. Reports 6*, 743 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $99.00; *in German.*

PB L 70327-S. Abstracts *in English* on the above item prepared by FIAT. 314 p. Microfilm $7.00, Photostat $21.00.

Patents for the production and subsequent treatment of rayon. Reichspatentamt, Berlin. FIAT Microfilm Reel BB 97; frames 3056-3815. 1913-1940. 759 f. PB L 70328. *Bibl. Sci. Ind. Reports 6*, 750 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $76.00; *in German.*

PB L 70328-S. Abstracts *in English* on the above item prepared by FIAT. 239 p. Microfilm $5.00, Photostat $16.00.

Rayon and like spinning machines. Walter Hartley. USP 2 458 374, Jan. 4, 1949.

An improved pot spinning machine comprises a circular container having a diameter at one end sufficient to allow the spinning pot to be inserted and removed easily, and which encloses the pot; a spindle for rotating the pot enters the container through a central hole in bottom. The motor is housed in the lower part of the container in a portion of smaller diameter than that containing the spinning pot. The whole unit rests on a flange, and is flexibly mounted beneath the top part of the container which holds the spinning pot. By placing the weight of the motor below this point, the pot when rotating will always assume its gyroscopic center, making possible higher spinning speeds and reducing the danger of the pot burst-in under centrifugal force.

Reports dealing mainly with textiles and synthetic fibers. I. G. Farbenindustrie A. G. FIAT Microfilm Reel E 15; frames 1-834. 84 items. 1941-1944. 834 f. PB L 70418. *Bibl. Sci. Ind. Reports 6*, 729 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $83.50; *in German.*

PB L 70418-S. Abstracts *in English* on the above item prepared by FIAT. 82 p. Microfilm $2.00, Photostat $6.00.

Reports dealing with synthetic textiles. I. G. Farbenindustrie A. G. FIAT Microfilm Reel E 14; frames 1-865. 105 items. 1942-1944. 865 f.

PB L 70417. *Bibl. Sci. Ind. Reports 6*, 729 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $86.50; *in German.*

PB L 70417-S. Abstracts *in English* on the above item prepared by FIAT. 105 p. Microfilm $3.00, Photostat $7.00.

Reports on synthetic fibers. I. G. Farbenindustrie A. G. FIAT Microfilm Reel E 16; frames 1-165. 9 items. 1941-1944. PB L 70419. *Bibl. Sci. Ind. Reports 6*, 666 (Aug. 22, 1947). Microfilm $2.50, Enlargement print $16.50; *in German.*

PB L 70419-S. Abstracts *in English* on the above items prepared by FIAT. 9 p. Microfilm $1.00, Photostat $1.00.

Reports on synthetic fibers and other miscellaneous chemicals. I. G. Farbenindustrie A. G. FIAT Microfilm Reel E 13; frames 1-821. 62 items. 1941-1944. 821 f. PB L 70416. *Bibl. Sci. Ind. Reports 6*, 682 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $82.50; *in German.*

PB L 70416-S. Abstracts *in English* on the above item prepared by FIAT. 62 p. Microfilm $2.00, Photostat $5.00.

Reports on textiles. I. G. Farben. FIAT Microfilm Reel D 13; frames 1-954. 41 items. 1936-1943. 953 f. PB L 70054. *Bibl. Sci. Ind. Reports 6* 729 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $95.50; *in German.*

PB L 70054-S. Abstracts *in English* on the above item prepared by FIAT. 41 p. Microfilm $1.00, Photostat $3.00.

Reports on textiles. I. G. Farbenindustrie A. G. FIAT Microfilm Reel G 16; frames 9212-9331g. 24 items. 1945-1946. 126 f. PB L 70059. *Bibl. Sci. Ind. Reports 6*, 729 (Aug. 22, 1947). Microfilm $2.25, Enlargement print $13.00; *in German.*

PB L 70059-S. Abstracts *in English* on the above item prepared by FIAT. 24 p. Microfilm $1.00, Photostat $2.00.

Short abstracts of patents and patent applications in the field of synthetic fibers. I. G. Farbenindustrie. FIAT Microfilm Reel B 23; frames 35461-36463. Jan. 1941-Apr. 1943. 1002 f. PB L 73203. *Bibl. Sci. Ind. Reports 6*, 749 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $101.00; *in German.*

PB L 73203-S. Abstracts *in English* on the above item prepared by FIAT. 1 p. Microfilm $1.00, Photostat $1.00.

Spinning nozzle. Deutsche Gold- und Silber-Scheideanstalt, Vormals Roessler. Registered design 1522 012/29a. Jan. 23, 1941. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 594-596. *Bibl. Sci. Ind. Reports 6*, 843 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Spinning nozzle for rayon or cellulose fiber. Deutsche Gold- und Silber-Scheideanstalt Vormals Roessler. Registered design 1522 280/29a. Nov. 12, 1941. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 694-696. *Bibl. Sci. Ind. Reports 6*, 844 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

10th anniversary of Industrial Rayon's continuous process. *Textile Age 12*, 101-4 106-10 (Dec. 1948).

A review is given of the development of this company's continuous rayon process for viscose filament yarn and the growth of the Industrial Rayon Corp. Some data on annual production are given.

Textiles: Patents. Reichspatentamt, Berlin. FIAT Microfilm Reel AA 71; frames 1796-2895. 561 items. 1884-1941. 1099 f. PB L 70266. *Bibl. Sci. Ind. Reports 6*, 750 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $110.00; *in German.*

PB L 70266-S. Abstracts *in English* on the above item prepared by FIAT. 561 p. Microfilm $12.00, Photostat $38.00.

Textiles: Patents. Reichspatentamt, Berlin. FIAT Microfilm Reel AA 104; frames 1368-2308. 420 items. 1880-1940. 940 f. PB L 70281. *Bibl. Sci. Ind. Reports 6*, 750 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $94.00; *in German.*

PB L 70281-S. Abstracts *in English* on the above item prepared by FIAT. 420 p. Microfilm $9.00, Photostat $28.00.

Textiles: Patents. Reichspatentamt, Berlin. FIAT Microfilm Reel AA 111; frames 6859-7842. 325 items. 1886-1942. 983 f. PB L 70283. *Bibl. Sci. Ind. Reports 6*, 750 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $98.50; *in German.*

PB L 70283-S. Abstracts *in English* on the above item prepared by FIAT. 325 p. Microfilm $7.00, Photostat $22.00.

Thermoplastic material treating process. Wm. Horbach & Walter D. Paist (to Camille Dreyfus). Can. P. 445 032, Nov. 11, 1947.

See USP 2 432 521, 1947 (TTD: *5*, 260).

Thread advancing device. American Viscose Corp. Australian P. 129 890, Dec. 7, 1945.

Apparatus for handling continuous strands of filamentary material comprises a thread-storing, thread-advancing device, means for rotating the strand carrying surface thereof, and an annular strand-receiving surface adjacent discharge end of the device. The annular surface has a smaller diameter than the strand-carrying surface.

Thread-advancing reel. Richard W. Stanley & Wm. B. Lowe (to Am. Viscose Corp.). Can. P. 445 028, Nov. 11, 1947.

See USP 2 403 031, July 2, 1946 (TTD: *3*, 367).

Thread drying apparatus. Loren A. Corey & Thos. S. Mayner (to Industrial Rayon Corp.). USP 2 456 925, Dec. 21, 1948.

An improved drying reel for the continuous processing of rayon is claimed in the present patent. The drying reel is made up of longitudinal bars or tubular thread-bearing members which carry the yarn on their periphery, advancing it as the drying apparatus revolves. The longitudinal bars have passages along their axis through which the heating medium is continuously circulated. This brings the heat transfer from the heating medium to the yarn to an optimum value.
LCL

Thread drying apparatus. Thos. S. Mayner & E. Paul Hurayt (to Industrial Rayon Corp.). USP 2 456 974, Dec. 21, 1948.

The drying apparatus is designed for use in the manufacture of rayon by the continuous process. The drying reel is comprised of 2 sets of longitudinal, tubular thread-bearing members positioned in such a manner that they will interlock as the apparatus revolves. The heating fluid passes through the tubular members and the yarn is carried on the outside surface of the tubular members. This close contact gives improved drying by a more rapid heat transfer.
LCL

Unsaturated esters and ethers of cellulose. Maurach. FIAT Microfilm Reel 4B; July, 1929. 4 f. PB A 27873; frames 6565-6571. *Bibl. Sci. Ind. Reports 6*, 666 (Aug. 22, 947). Microfilm $1.00, Enlargement print $1.50; *in German.*

Methods of preparation are described. Satisfactory films could not be obtained.

Wet spinning and drying yarns during the spinning process. Wilhelm Hoppe. Ger. patent application H 168 082, Apr. 14, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3308-3311. *Bibl. Sci. Ind. Reports 6*, 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Acrylonitrile composition and articles. E. I. duPont de Nemours and Co. Australian P. 129 673, Jan. 22, 1946.

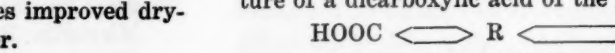
A composition which is suitable for the formation of textile yarns and films comprises a solution of a polymer of acrylonitrile, in which at least 85% by weight of the polymer is acrylonitrile, in a solvent comprising hydracrylonitrile or glycolonitrile. Shaped articles therefrom may be obtained by removing all or part of the solvent by an evaporative spinning process or by extrusion of the solution into liquids which are miscible with the solvent but which are non-solvents for the polymer.

Manufacture of glass fibers. Paul Ebaugh (to Owens-Corning Fiberglas Corp.). USP 2 457 775, Dec. 28, 1948.

In the manufacture of glass fibers, this invention provides a coating which is applied to the fibers after they are formed, but in advance of their collection into a package. The fiber-coating material contains a resin and a combination of a solvent and a non-solvent for the resin, the non-solvent being of a lower volatility than the solvent, and the 2 are in such proportions that the resin will coagulate upon evaporation of at least a part of the resin solvent from the fibers and prior to their collection into a package.

Polymeric alkyd resins. Imperial Chemical Industries. Australian P. 130-127, Feb. 4, 1946.

A process for the manufacture of highly polymeric linear polyesters comprises heating a mixture of a dicarboxylic acid of the general formula



or an ester-forming derivative thereof, where R is a bond joining the 2 phenylene residues or the group $-(CH_2)_x-$, x being an integer not exceeding 4, and at least one molecular proportion of a glycol of the general formula $HO(CH_2)_yOH$, y being an integer greater than 1 but not exceeding 6, or a low molecular weight product obtainable from the ingredients of the said mixture, the heating being effected under conditions whereby, at least during the later stages of the reaction, by-products and any excess of glycol are removed, heating being continued until filaments formed

from a melt of the product can be permanently extended by cold drawing into useful fibers. A catalyst is preferably employed to facilitate interaction. The heating may be effected in absence of oxygen by passing a stream of nitrogen over the reaction mass. The product, when spun into filaments, is also claimed.

Protein fiber manufacturing process. Francis C. Atwood (to Natl. Dairy Products Corp.). Can. P. 445 261, Nov. 25, 1947.

This invention provides a hardening bath for acid-coagulated and stretched protein fiber. The bath contains 5% formaldehyde, and the pH value of the bath is maintained at not less than 4.5 and not more than 7.0 during the time the fiber is hardened in the bath; the temperature is maintained at 100 to 125°F.

Synthetic polymers containing aldehyde groups. E. I. du Pont de Nemours & Co. Australian P. 130 424, May 6, 1946.

New synthetic linear polymers are prepared by subjecting to hydrolysis, alcoholysis, or saponification the polymers obtained by polymerizing one or more monomers containing a carbon-to-carbon unsaturation and having a group which is inactive to polymerization, the inactive groups in the resulting polymer being readily converted by the reaction to aldehyde groups. The aldehyde groups may be cross-linked with hydroxyl groups of the polymer or another polymer.

Treating linear polyesters. Imperial Chemical Industries Ltd. Australian P. 129 734, Jan. 30, 1946.

To impart improved physical properties to filaments, fibers and other articles produced from highly polymeric linear polyesters (or interpolyesters) of the glycolaromatic carboxylic acid type, the dried compound is melted and maintained before and up to the stage of formation of filaments, etc., under conditions such that there is not more than a proportion of 0.005, preferably 0.001, mols. of water per repeating unit of the linear polyester employed, in contact with the melt.

YARN PRODUCTION B

Alabama technical meeting. Anon. *Textile Industries 113*, 98-102 (Jan. 1949).

Mill experiences in stripping, opening, lap handling, spinning, weaving, etc., as discussed at the fall meeting of the Alabama Textile Operating Executives, are given in table form and briefly discussed.

East Carolina S. T. A. has lively discussion of preparatory processes and yarn production. Anon. *Textile Bull. 74*, 57-8, 60, 62, 64, 66 (Nov. 1948).

This is an abstracted stenographic report of the discussion on preparatory processes and yarn manufacturing at the fall meeting of the Southern Textile Assn., Eastern Carolina Division, held Oct. 30 at Durham, N. C.

Method for manufacturing voluminous yarn. Anon. Ger. patent application V 16 153 VII/76c, May 16, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3219-3220. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

New Saco-Lowell system for processing worsted yarn. I. & II. John L. Beacon. *Textile Age 12*, 34, 39, 42 (Nov. 1948); 42, 46, 48-9 (Dec. 1948).

Cotton machinery and cotton processing procedures have been adapted to the manufacture of worsted yarn in the new Saco-Lowell system. The system is designed for processing wool fibers which have had preparatory processing and are packaged in the form of a ball or top. The length and coarseness of the fibers are the limiting factors in the wool that may be processed. Details are given of the lap winder, drafting arrangement, and the baller motion. The top is form in a lap on the lapwinder, run through a breaker drawing, reprocessed on the lapwinder, and drafted through the finisher drawing frame. It is then put through one process of roving and spun.

Predetermining the spinning characteristics of cotton. John F. Bogdan, North Carolina State College School of Textiles. *Textile Bull. 74*, 65-6, 68 (June, 1948).

Three factors affecting yarn quality are (1) fiber strength, (2) fiber cohesion, (3) and evenness or regularity of the yarn. In tests made at N. C. State College, these factors are used to plot a prediction curve which serves for all fibers and which is compared with the actual curve to determine the difference. Spinning tests are then run to bring the prediction curve and actual curve into agreement.

Production of asbestos yarn. A. E. Williams. *Textile Mercury & Argus 117*, 16-9 (July 11, 1947); 67-9 (July 18, 1947).

The production of asbestos yarn is discussed with reference to operating problems and their solution. In Part 2, a method for determining the cotton content of an asbestos material by burning it

in a stream of O_2 and determining the amount of CO_2 is described.

Simple method of estimating the cost of spinning for various yarn numbers. Wilhelm Faber. *Melliand Textilber 29,* 10-13 (Jan. 1948); *in German.*

Methods for calculating the spinning cost per kilogram for each count are given.

Some recent developments in flax spinning. 2. Hackling and sliver formation. Flaxman. *Textile Mercury & Argus 117,* 100-2 (July 25, 1947); **Machinery and processing development in flax spinning. 3. Tow carding.** Flaxman. *Ibid.,* 318-20 (Sept. 5, 1947).

These articles continue the review of postwar developments in the processing of flax which began in the July 4, 1947 issue (See TTD: *5,* 259).

Fiber preparation B 1

Cotton opening and cardroom processes. J. R. Dunkerley, Dominion Textile Co. Ltd. *Textile Mfr. 74,* 579-80, 593 (Dec. 1948).

Revolving flat cards, the Saco-Lowell continuous stripper, and modern developments in opening room equipment are considered in this review.

Mill of today. Robt. Z. Walker. *Textile Bull. 74,* 51-2, 54 (Feb. 1948); 52, 54, 56, 58 (Mar. 1948); 138, 140, 142, 144 (May, 1948); 68-71 (June, 1948); 50, 52, 55-6, 58, 60 (July, 1948); 86, 88, 90 (Sept. 1948); 53-4, 56, 58 (Oct. 1948).

This is a series of discussions of recent developments in mill operation. The topics covered so far are as follows: (1) Mixing and blending, (2) The feeder is important, (3) The opening line, (4) Horizontal openers, (5) Air control in opening and picking, (6) Pickers, and (7) Distributing systems.

"Peralta" machine in woolen carding. G. Marshall, Carding Specialists Co. Ltd. *Textile Mfr. 74,* 520-3 (Nov. 1948).

The "Peralta" machine consists of the frame, 2 rollers, and a pressure arrangement (spring or hydraulic). In operation, a thin web is run and sufficient pressure applied to the rollers to effectively crush any impurities present in the fibers. The crushed impurities are then removed in subsequent carding operations; the need for carbonizing is thus eliminated for many types of cloths. If piece carbonizing is required, a light treatment will eliminate all matter without leaving any stain. Use of the "Peralta" makes possible the ultilization of cheaper materials and reduces processing costs considerably.

Tow-to-top (spinnband) process in German worsted industry. A. McGill. BIOS Final Rept. 1211, Item 22,31. July-Aug. 1946. 33 p. PB L 79438. *Bibl. Sci. Ind. Reports 6,* 982 (Sept. 12, 1947). Microfilm $1.00, Photostat $3.00.

This is a system of converting continuous rayon tows into tops by means of a tearing process between a system of rollers. Reference is made to the system developed by I. G. Farbenindustrie at Wolfen. The process had apparently been largely confined to worsted combers and spinners. The origin of the process is given and the process and machines described as well as operations, etc., with conclusions. Thirteen reports on factories visited are included together with sketches showing roller arrangements.

Treating textile fibers. Monsanto Chemical Co. Australian P. 129 679, June 27, 1945.

To increase their slip resistance and prepare them for spinning, there is applied to the fibers a colloidal aqueous solution of silica in an amount sufficient to supply from 0.1 to 10% of silica, by weight; the fibers are then allowed to dry. The solution employed is an aquasol or organo-aquasol, which may be prepared by reacting an acid with a water soluble silicate, or by hydrolysis of an alkyl silicate.

Carding and combing B 2

German card clothing industry, and certain textile wire products. J. T. Setterington & others. BIOS Final Rept. 1244, Item 21, 22, 31. n.d. 52 p. PB L 79241. *Bibl. Sci. Ind. Reports 6,* 983 (Sept. 12, 1947). Microfilm $2.00, Photostat $4.00.

Individual reports on nineteen factories visited are given with photographs of machinery and a switch layout of a wire drawing machine with automatic regulation of the amount of wire on the block.

New safety guard for Nasmith type cotton combers. A Special Correspondent. *Textile Mfr. 74,* 474-5 (Oct. 1948).

Features of the Befco locking motion and guard (prov. patent no. 14086/48) for use on Nasmith or Heilmann type combers are described and illustrated. The device consists of 2 parts: (a) a fitting at the gearing end of the frame, and (b) another fitting at the outer end, apart from the guard itself. Guards over the top combs are made

from clear "Perspex", a transparent material which permits the operator to observe the action of the needles and detaching rollers.

Drafting and roving B 3

Blending fibers at drawing process. Wilson Orr. *Textile Industries 113,* 91 (Jan. 1949).

Repeated tests with various fibers and fiber sizes clearly show differences in drafting qualities. Metallic rolls appear to be more effective in leveling out these differences. A highly crimped viscose staple, blended with regular viscose in the drawing process was found to reduce spinning efficiency and to produce a ragged yarn of low breaking strength. This was corrected by reducing the setting between rolls 3 and 4 (back rolls) from 2½" to 2 3/16".

Drawing device for spinning materials particularly angora wool. Kurt Schmidt. Ger. patent application Sch 127 364, May 6, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3250-3253. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Drawing frame. Süddeutsche Spindelwerke, Ebersbach (Fils). Ger. patent application S 139 179, Nov. 13, 1939. FIAT Microfilm Reel C-157. PB L 74390; frames 3225-3232. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawing frame drive for fly frames and fine spinning machines, particularly for a stage type drawing frame operating for a high passage with connected compression range. Ernst Toenniessen. Ger. patent application T 56 783, Jan. 21, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3372-3319. *Bibl. Sci. Ind. Reports 6.* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Drawing frame for spinning fibers of any length. Zellewolle-Lehrspinnerei G.m.b.H. Ger. patent application Z 28 310, Nov. 25, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3148-3151. *Bibl. Sci. Ind. Reports 6,* 1027 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Drawing frame, particularly for fine spinning machines. J. J. Keyser. Ger. patent application

K 167 432, Feb. 9, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3295-3300. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Drawing frame with double leather tapes. F. A. Kümpers. Ger. patent application K 166 819, Dec. 9, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3196-3201. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Drawing frame with double leather tapes and 3 pairs of rollers. F. A. Kümpers. Ger. patent application K 162 690 VII/76c, Nov. 4, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3376-3382. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawing frame with 2 rollers and double leather tapes for long and extra long fibers, particularly of irregular length. Hermann Kluftinger. Ger. patent application K 169 927, Oct. 13, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3353-3362. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Extension of pin control in worsted type yarn processing. James R. Longstreet, Warner & Swasey Co. *Papers Am. Assoc. Textile Technologists 3,* 183-90 (Sept. 1948); *Textile Bull. 74,* 45-6, 48, 50 (Aug. 1948).

In an address, the development of the Pin Drafter is reviewed, and the French System and American System are described briefly. The Pin Drafter is discussed from the standpoint of the differences between it and a gill box, and details of operations.

Holder for passage rolls of multi-roller drawing frames particularly for drawing frames with leather tapes. Süddeutsche Spindelwerke, Inhabereugen Zinser, Ebersbach A. D. Fils. Ger. patent application S 142 952, Nov. 16, 1940. FIAT Microfilm Reel C-157. PB L 74390; frames 3301-4403. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Method of making textile units for fiber drafting. John W. Baymiller (to Armstrong Cork Co.). USP 2 455 349, Dec. 7, 1948.

Long draft aprons for use in fiber drafting are made of an inner layer, adapted to resist wear

caused by movement of the apron over flutings of the rolls on which it is mounted, a reinforcing and strengthening layer formed of a number of convolutions of twine disposed thereover and adapted to render the apron substantially inextensible in the direction of movement thereof, and a flexible, resilient, wear-resistant exterior layer adapted to engage the fibers being drafted.

Roll tension device. Sigurd H. Helland (to Whitin Machine Works). USP 2 458 852, Jan. 11, 1949.

Spring tension is applied to the pairs of drawing rolls by means of a cross bar for each pair of rolls, a bolt extending through each end of each cross bar and through the adjacent side rail and into the adjacent bearing box and clamping the 3 parts together; the cross bar and the bearing box are in permanent assembled alignment. A spring tensioning means is provided for each pair of rolls positioned and guided by the associated cross bar and is shiftable therewith along the rails. The provision of a cross bar for each pair of drawing rolls and the provision of means for holding these parts in accurate alignment with the corresponding roll bearing boxes permit convenient transverse adjustment of the drawing rolls while maintaining accurate alignment in the associated tension devices.

Roller guide. Vereinigte Kugellagerfabriken A. G. Ger. patent application V 38 016, Sept. 5, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3326-3328. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Rotary passage drawing frame for yarns. Otto Paul. Ger. patent application P 87 407 VII/76c, March 15, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3304-3307. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Roving bobbin. J. J. Keyser. Ger. patent application K 167 433, Feb. 9, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3290-3294. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Roving spool. Alphonse Rancourt. Can. P. 444 921, Nov. 11, 1947.

See USP 2 425 827, Aug. 19, 1947 (TTD: 4, 476).

Weighting device for the upper rollers of two pairs of rollers of a drawing frame with a two-part pressure saddle. Sächsische Textilmaschinenfabrik Vorm. Rich. Hartmann A. G. Ger. patent application S 136 950/76c-12-0.8, Jan. 30, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3221-3224. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Spinning B 4

Adjustable spinning rings for a continuous spinning process. Hermann Buchinger. Ger. patent application B 207 038 VII/76c, Aug. 30, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3341-3342. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Arrangement for the electric operating motor of textile machines, particularly flyer frames and fine spinning machines. Johann Keyser. Ger. patent application K 161 004, May 5, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3202-3207. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Bearing for drawing frame rollers of spinning machines. Walther Günther. Ger. patent application G 104 321, Nov. 4, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3393-3397. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12 1947). Enlargement print $1.50; *in German.*

Brake for bobbins of fly spinning frames. Karl Müller. Ger. patent application M 160 727 VII/76c, July 31 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3363-3366. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Collar and footstep bearings for spindles of wet spinning frames. Josef Riedel. Registered design 1523 336/76c. Aug. 24, 1942. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 873-875. *Bibl. Sci. Ind. Reports 6,* 846 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Doffing apparatus. The Bristol Cotton Industry Research Assn. Australian P. 130 340, Feb. 26, 1946.

A doffing apparatus includes means for engaging and raising a full bobbin so as to cause some of

the yarn to unwind over the lower end of the bobbin onto the spindle, means for catching up the yarn below the bobbin to limit the amount of yarn which winds onto the spindle so that this yarn is readily pulled away with the next bobbin, and means for gripping and severing the picked up yarn in such a way as to hold the end leading to the spindle so that the yarn on the spindle can be gripped by the next bobbin.

Drawing frame with a lower leather tape (for spinning machines.) Vereinigte Kugellagerfabriken A. G. und Zellwolle Lehrspinnerei G.m.b.H., Schweinfurt A. M., Denkendorf B. Esslingen A. N. Registered design 1522 348/76c. Apr. 4, 1941. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 704-708. *Bibl. Sci. Ind. Reports 6*, 844 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Driving mechanism for flyers provided with passage rolls. Firma P. Baumhüter. Ger. patent application B 196 174, Nov. 20, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3259-3262. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Electric brake for fly-spinning frames and doubling machines. Baumwollspinnerei und Warperei Furth (Vormals H. C. Müller). Ger. patent application B 203 791/76c, Sept. 4, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3336-3340. *Bibl. Sci. Ind. Reports 6*, 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Influence of mixed fibers on yarn and fabric design. Roy Wood, Courtaulds Ltd. *Textile Industries 113*, 103-4 (Jan. 1949).

The effect of the types of fibers on yarn and fabric blends is briefly discussed, and the method of calculating minimum yarn strength when laying down a fiber blend is described.

Method and apparatus for thread feeding and spinning. Otto Rasch. Ger. patent application R 118 902 VII/76c, June 6, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3238-3242. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Method and mechanism for spinning irregular yarn material. Hermann Kluftinger. Ger. patent application K 170 136, Nov. 12, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3284-3289. *Bibl. Sci. Ind. Reports 6*, 1029

(Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Method and mechanism for spinning material. Rudolf Urban. Ger. patent application U 15 862, Feb. 3, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3215-3218. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Method for feeding, spinning and doubling of threads. Otto Rasch. Ger. patent application R 118 976 VII/76c, June 22, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3243-3244. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Method, installation and arrangement of the bearing for drawing rollers of calender roller systems of spinning frames, particularly bast spinning machines. Anon. Ger. patent application H 168 011 VII/76c, Apr. 2, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3274-3278. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Plant developed for contrifugal spinning of dry yarns. Anon. *Silk & Rayon 22*, 1314, 1316, 1318, (Oct. 1948).

The features of the Prince-Smith and Stells system for the centrifugal spinning of dry yarns are described. In operation, an end passes through a roller drafting zone, through a traversing tube to the inside of the spinning container into which it it wound with light drag, by centrifugal force. Twist is inserted as the yarn is rotated upon its own axis by the revolving spinning container. The complete absence of balloon, bobbin drag, etc., makes it possible to spin with less twist, increasing production in addition to obtaining higher speeds. The doffing operation, which includes the transference of yarn from container to bobbin, is power operated and semi-automatic. About 10 sec. are required for doffing, but the time taken in transferring the yarn from the containers to the bobbins is about 2 min.

Plate spinning machine. Vereinigte Jutespinnereien und Weberein A. G. Ger. patent application V 38 067, Sept. 26, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3329-3333. *Bibl. Sci. Ind. Reports 6*, 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Press roller axle for spinning machines or spinning spindletubes. S. A. Cotonificio Valle di Suso. Ger. patent application S 133 423 VII/76c, Aug. 15, 1938. FIAT Microfilm Reel C-157. PB L 74390; frames 3233-3234. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Addition to patent application S 127 178 VI/18d.

Ring rail of ring spinning and ring doubling frames. Firma Karl Hamel A. G. Ger. patent application H 165 292, May 3, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3191-3195. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Roving and stopping mechanism on spinning machines. Jute Weberei Emstetten. Ger. patent application J 71 590, Feb. 18, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3184-3190. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Safety device for flyers. Gruschwitz Textilwerke A. G. Ger. patent application G 104 237, Oct. 20, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3398-3401. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Self lubricating spinning and doubling ring. Baumgartner & Kunzelmann. Ger. patent application B 199 109, July 31, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3343-3344. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Spinning or doubling frame with automatic stop motion. Firma G. F. Grosser. Ger. patent application G 104 163, Sept. 29, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3402-3409. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Spinning range of low grade flaxes. S. A. G. Caldwell. *Textile Mfr. 74,* 462-3, 465 (Oct. 1948). In this discussion of flax spinning, wet spinning and some of the softening agents used are considered. A system for treating roving prior to spinning, developed by S. Svenson, of Dalsjofors, Sweden, is also noted. It is suggested that suitable treatment prior to or during the spinning process will result in a cosiderable extension in yarn counts and quality from any type of raw material.

Spinning regulator. Licentia Patent-Verwaltungs-G.m.b.H. Ger. patent application L 109 471, Nov. 4, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3152-3160. *Bibl. Sci. Ind. Reports 6,* 1027 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Suction device for the broken yarn of spinning machines. Franz Hoffmann. Ger. patent application H 171 749, May 27, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3370-3375. *Bibl. Sci. Ind. Reports 6,* 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread guide flap for ring spinning and ring doubling frames. Firma Albert Aug. Knapp. Ger. patent aplication K 171 035 VII/76c, Mar. 16, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3181-3183. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread separator of ring spinning machines. Süddeutsche Spindelwerke Zinser-Ebersbach-fils. Ger. patent application (number not given), July 24, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3263-3267. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Tightening device and stopping mechanism for the bearing of press rollers for spinning frames. Johann J. Keyser. Ger. patent application K 156 228 VII/76c, June 30, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3175-3180. *Bibl. Sci. Ind. Reports 6,* 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Traveller for ring spinning frames and ring doubling frames. Anon. Ger. patent application L 115 214 VII/76c, July 21, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3170-3174. *Bibl. Sci. Ind. Reports 6,* 1027 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Addition to patent application L 110 479/76c. Drawings included.

Traveller for ring spinning frames and ring doubling frames. Anon. Ger. patent application L 115

614 VII/76c, Sept. 16, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3161-3164. *Bibl. Sci. Ind. Reports 6*, 1027 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Traveller for ring spinning frames and ring doubling frames. Anon. Ger. patent application L 115 615 VII/76c, Sept. 16, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3165-3169. *Bibl. Sci. Ind. Reports 6*, 1027 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Weighing motion for the drafting rollers of ring spinning frames. John Schofield, Jr. Can. P. 445 325, Dec. 2, 1947.

A weighting mechanism for the top drafting rollers of the drawing heads of ring spinning frames and other textile machines comprises the combination with the front and back weighting lever arranged below the rollers and pivotally mounted on a bracket, a connecting bar connecting the front weighting saddle to the front end of the weighting lever and a pressure lever also pivotally mounted on said bracket and capable of being moved about its pivot to apply pressure to the weighting lever.

Winding device for roving yarn of spinning frames set on individual bobbins. Schubert & Salzer Maschinenfabrik A. G. Ger. patent application Sch 129 112 VII/76c, Apr. 15, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3245-3249. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Yarn knotting mechanism for ring spinning machines. Emil Tritschler. Ger. patent application T 49 802, Jan. 17, 1938. FIAT Microfilm Reel C-157. PB L 74390; frames 3320-3325. *Bibl. Sci. Ind. Reports 6*, 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Winding and spooling B 5

Adjustable driver for winding frames. J. A. Kraft. Ger. patent application K 165 097, June 22, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3698-3700. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Apparatus for removing residual thread from bobbins. John J. Wilson (to Doelcam Corp.). USP 2 458 326, Jan. 4, 1949.

Residual thread is removed from used bobbins by an apparatus which comprises a chain carrier for the bobbins, a rotating brush which removes the thread end from the bobbin and draws off a short length of the thread, and conical rollers which serve to pull all of the thread off the bobbins.

Apparatus for winding strands. Games Slayter (to Owens-Corning Fiberglas Corp.). USP 2 457 786, Dec. 28, 1948.

In the winding of a package, a flexible tube is mounted on blades on a rotatable spindle, the hub of which has annular radial flanges provided with radially extending V-shaped slots. The blades are pivotally connected at each end to the flanges adjacent to apex of the slots and are movable on an arc within the slots. In operation, the blades are normally projected outwardly by centrifugal force from the rotation of the spindle, and are inwardly movable against this force by tension of the winding strand. The device relieves the compressive forces created by winding the strand and holds the tube tight by centrifugal force during winding, so that no special means for gripping the tube are needed, and it can be removed easily. Also, the diameter of the package may be gradually reduced as the compressive forces are increased by the accumulated windings on the tube, so that the outside diameter remains approximately constant. This is especially advantageous in the production of glass filaments when they are attenuated by the winding process, since it gives a more uniform peripheral speed.

Automatic feeding device for torn yarn ends in winding frames. W. Schlafhorst & Co. Ger. patent application Sch 129 121 VII/76d, Apr. 20, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3749-3750. *Bibl. Sci. Ind. Reports 6*, 1032 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Addition to patent application Sch 123 421 VII/76d.

Automatic winding frame particularly for cops. Firma Friedrich Branz. Ger. patent application B 185 240, Nov. 15, 1938. FIAT Microfilm Reel C-157. PB L 74390; frames 3536-3557. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $2.50; *in German.*

Balling machine. Reinhard Schäfer. Ger. patent application Sch 128 797 VII/76d, Jan. 29, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3608-3610. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Bobbin brake. W. Schlafhorst & Co. Ger. patent application Sch 127 036, Mar. 18, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3589-3594. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Bobbin carrier. W. Schlafhorst & Co. Ger. patent application Sch 107 692, May 29, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3515-3516. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Addition to patent application Sch 123 700 VII/76d.

Bobbin for an axial thread take-up. Kurt Kusian. Ger. patent application G 169 756 VII/76d, Sept. 28, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3499-3502. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawing included.

Bobbin for winding textile fibers. Hans Vogelgesang. Ger. patent application V 41 611 VII/76b, Jan. 24, 1945. FIAT Microfilm Reel C-157. PB L 74390; frames 3719-3724. *Bibl. Sci. Ind. Reports 6,* 1032 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Bobbin rejects at spooler. L. M. Howell, Howell-Wilson Associates. *Am. Wool Cotton Reptr. 63,* 9-10, 48-50 (Jan. 20, 1949).

The causes and methods of preventing spooler rejects or tailings are discussed in detail. Defects should be stopped at their source rather than at the snick plate.

Bobbin weight. W. Schlafhorst & Co. Ger. patent application Sch 186 131, Nov. 12, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3483-3486. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Cone winder. Wm. T. Stearn (to Camille Dreyfus). Can. P. 445 163, Nov. 18, 1947.

A guide for winding yarn onto packages comprises a roller guide having rounded ends, roller bearings, and having a guide groove therein for receiving and guiding the yarn being wound onto the package being formed.

Cop winding frame. W. Schlafhorst & Co. Ger. patent application Sch 119 021 VII/76d, Aug. 9, 1939. FIAT Microfilm Reel C-157. PB L 74390; frames 3565-3568. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Cop winding frame. W. Schlafhorst & Co. Ger. patent application Sch 123 881 VII/76b, Dec. 24, 1941. FIAT Microfilm Reel C-157. PB L 3597-3602. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Cop winding machine. W. Schlafhorst & Co. Ger. patent application Sch 115 665, Apr. 30, 1938. FIAT Microfilm Reel C-157. P BL 74390; frames 3509-3514. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Cop winding machine with rotating thread guide. Anon. Ger. patent application Sch 125 068 VII/76d, June 13, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3637-3639. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Cross winding frame. Walter Kettler. Ger. patent application K 160 897, Apr. 24, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3701-3705. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Cross winding frame with controllable spindle drive. Schubert & Salzer Maschinefabrik A. G. Ger. patent application Sch 119 585 VII/76d, Nov. 30, 1939. FIAT Microfilm Reel C-157. PB L 74390; frames 3656-3662. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Device for a regulated yarn speed of winding frames. W. Schlafhorst & Co. Ger. patent application Sch 166 138, Nov. 13, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3487-3491. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Device for cop winding frames without spindle, etc. Halstenbach & Co. Ger. patent application H 166 763, Nov. 12, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3616-3624. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Device for cutting thread ends from bobbins of automatic winders. Anon. Ger. patent application O 26 038, May 19, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3569-3574. *Bibl.*

Sci. Ind. Reports 6, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Device for drawing in the end of yarn after winding of drawing yarn on a wrapping card. Firma Schachemayr, Mann & Cie. Ger. patent application Sch 126 235, Nov. 25, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3476-3479. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Device for exchanging tubular cops. Fa. Vereinigte Jute-Spinnereien und Weberelien A. G. Ger. patent application V 40 551 VII/76d, Oct. 18, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3648-3652. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Device for limiting ballooning of the yarn in creels. W. Schlafhorst & Co. Ger. patent application Sch 124 569 VII/76c, May 1, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3472-3475. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Device for removing wound bobbins on winding frames. Walter Otto. Ger. patent application O 26 039, May 19, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3558-3561. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Device for skeining reeled yarn. I. P. Bemberg A. G. Ger. patent application B 199 289, Aug. 21, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3431-3433. *Bibl. Sci. Ind. Reports 6*, 1030. (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Device for winding cross wound bobbins. Bremer Woll-Kämmerei. Ger. patent application B 202 580, May 8, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3527-3535. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drum with threaded groove. W. Schlafhorst & Co. Ger. patent application Sch 118 489, May 30, 1939. FIAT Microfilm Reel C-157. PB L 74390; frames 3562-3564. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Addition to patent application 116 413 VII/76d.

Fixed bobbin with cross winding device. Karl

Kusian. Ger. patent application K 160 145 VII/76d, Feb. 8, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3671-3697. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $3.00; *in German.*

Foldable device for unwinding wool trusses, etc. Georg Henkel. Ger. patent application H 161 801, Mar. 8, 1940. FIAT Microfilm Reel C-157. PB L 74390; frames 3740-3748. *Bibl. Sci. Ind. Reports 6*, 1032 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Mechanism for running off bands, cords, cordonnet thread, etc. Anon. Ger. patent application L 107 762, May 6, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3575-3580. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Method and mechanism for avoiding local yarn accumulations for producing bobbins. W. Schlafhorst & Co. Ger. patent application Sch 163 690 VII/76d, Nov. 26, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3603-3607. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Method and device for avoiding pattern winding on traverse winding frames. W. Schlafhorst & Co. Ger. patent application Sch 187 113, Mar. 27, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3480-3482. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Method and device for rewinding yarn. Vereinigte Jute-Spinnereien und Webereleien A. G. Ger. patent application V 40 546 VII/76d, Oct. 12, 1943. FIAT Microfilm Reel C-157. PB L 74390; *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Method and mechanism for a proper removal of yarn bobbins. W. Schlafhorst & Co. Ger. patent application Sch 124 516 VII/76d, Mar. 27, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3468-3471. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawing included.

Method and mechanism for producing bobbins, particularly double cone-shaped bobbins with cross arranged winding of the yarn. Hoffmann & Kusian. Ger. patent application H 156 538, July 15, 1938. FIAT Microfilm Reel C-157.

PB L 74390; frames 3706-3711. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Method of unwinding rayon prespinning material or bobbin crowns from the tube. Hermann Schubert. Ger. patent application Sch 124 635, Apr. 10, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3595-3596. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

New redraw shows increased output and improved quality. Geo. Ransom. *Textile Age 12,* 52, 54 56-7 (Dec. 1948).

Features of a newly designed redraw frame including variable speed control, tension control, etc. are described and illustrated. The traverse motion and motor drive are completely enclosed in a dirtproof housing at which all operating adjustments are made.

Reel for yarn. Walter Störr. Ger. patent application St 13 002, Apr. 20, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3737-3739. *Bibl. Sci. Ind. Reports 6,* 1032 (Sept. 12, 1947). Enlargement prints $1.50; *in German.*

Rewinding gear for bobbins. Frederick S. Perry & Jos. A. Huskinson (to Woodward Grosvenor & Co. Ltd.). Australian P. 129 746, Aug. 17, 1945. USP 2 458 021, Jan. 4, 1949.

A portable body has a power driven rotary driving member for engaging any one of a group of bobbins or yarn carriers, while in their position on a creel, to effect rewinding.

Quick traverse winding machine. Karl Hamel A. G. Ger. patent application H 168 252 VII/76d, May 1, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3446-3452. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Spindle for thread bobbins. Peter Ponzelar. Registered design 1523 283/76d. June 13, 1942. FIAT Microfilm Reel E 7. 1937-1942. PB L 70412; frames 866-868. *Bibl. Sci. Ind. Reports 6,* 846 (Aug. 29, 1947). Enlargement print $1.50; *in German.*

Strand winding apparatus. Geo. Beach (to Fiberglass Canada Ltd.). Can. P. 445 101, Nov. 18, 1947.

This patent describes a traversing device for strand winding apparatus which comprises a shaft carrying an even number of conical spiral cams

having substantially the same pitch and having axes of generation coinciding substantially with the axis of the shaft, said cams overlapping longitudinally on the shaft and each extending circumferentially over a different arc at least substantially equal to 360° divided by the number of cams, adjacent cams being complementary and running in opposite directions longitudinally of the shaft, the minor radii being at least as close to each other longitudinally of the shaft as the major radii.

Support for a reeling-off device of reeled yarn. Wal-Fried Raabe. Ger. patent application R 113 988, Sept. 12, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3434-3438. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Switching device for the control spindle of a winding apparatus. Lynenwerk K.-G. Ger. patent application L 110 660, Feb. 25, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3441-3445. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Tension device for bobbins to be wound on winding frames. Firma J. A. Kraft. Ger. patent application K 164 131, Mar. 19, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3712-3718. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Tension device for spinning material and bobbin crowns. Hans Reider. Ger. patent application R 118 115 VII/76d, Feb. 8, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3653-3655. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread brake and stop mechanism particularly for glass silk. Carl T. Pastor. Ger. patent application 981 195, Aug. 29, 1940. FIAT Microfilm Reel C-157. PB L 74390; frames 3611-3615. *Bibl. Sci. Ind. Reports 6,* 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread brake for winding frames. Herbert Neubert. Ger. patent application N 47 347/76d, Dec. 13, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3503-3508. *Bibl. Sci. Ind. Reports 6,* 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread-carrier with automatic yarn threading mechanism for quick traverse winding frames. W.

Schlafhorst & Co. Ger. patent application Sch 124 285 VII/76d, Feb. 28, 1942. PB L 74390; frames 3427-3430. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread feeding mechanism. Rosa Rasch. Geb. Körber. Ger. patent application R 115 323, Feb. 5, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3235-3237. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread guide drum for cross winding frames. W. Schlafhorst & Co. Ger. patent application Sch 120 146 VII/76d, May 11, 1940. FIAT Microfilm Reel C-157. PB L 74390; frames 3663-3670. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread guide for winding frames. W. Schlafhorst & Co. Ger. patent application Sch 125 067 VII/76d, June 13, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3585-3588. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread guide drum for winding frames and similar textile machinery. Burghardt Vossen. Ger. patent application V 112 451, Jan. 16, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3581-3584. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Tubular cop winding frame with groups of vertically set spindles to be stopped individually after each wound cop. Waneling & Bockholt. Ger. patent application W 113 375, June 15, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3492-3498. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Unwinding device for rayon spinning material. Anon. Ger. patent application R 113 964, Sept. 4, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3730-3736. *Bibl. Sci. Ind. Reports 6*, 1032 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Weight balancing device for winding bobbins by circumferential friction, particularly for quick traverse winding frames. Schubert & Salzer Maschinenfabric A. G. Ger. patent application Sch 129 000 VII/76d, Mar. 21, 1944.

FIAT Microfilm Reel C-157. PB L 74390; frames 3453-3462. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Winding device particularly for automatic winding devices. Firma Schubert & Bertholdmechanische Haufspinnereiannaberg. Ger. patent application Sch 129 320 VII/76d, May 15, 1944. FIAT Microfilm Reel C-157. PB L 74390; frames 3463-3467. *Bibl. Sci. Ind. Reports 6*, 1030 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Winding machine. Edward J. Abbott, Winthrop L. Perry & Jos. E. Ring (to Abbott Machine Co.). Can. P. 444 930, Nov. 11, 1947.

See USP 2 395 028, Feb. 19, 1946 (TTD: *3*, 166).

Yarn brake on winding frames. Vereinigte Jute-Spinnereien und Webereien A. G. Ger. patent application V 39 361, Nov. 17, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3751-3754. *Bibl. Sci. Ind. Reports 6*, 1032 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Yarn card winding frame. Firma C. A. Waldenfels. Ger. patent application W 111 055, May 22, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3631-3636. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Yarn cleaning mechanism particularly for winding frames. Firma August Clauss-Trikotagenfabrik in Hohenstein-Ernstthal S. A. Ger. patent application C 58 086, Mar. 8, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3725-3729. *Bibl. Sci. Ind. Reports 6*, 1032 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Yarn guide for producing cross windings on bobbins. W. Schlafhorst & Co. Ger. patent application Sch 118 033, Mar. 23, 1939. FIAT Microfilm Reel C-157. PB L 74390; frames 3640-3647. *Bibl. Sci. Ind. Reports 6*, 1031 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Yarn winding machine. Louis M. Cotchett (to Foster Machine C.). Can. P. 445 356, Dec. 2, 1947.

See USP 2 408 135, Sept. 24, 1946 (TTD: *3*, 543).

Yarn processing B 6

Apparatus for treating filamentary materials. Wm.

H. Kreamer, John C. Klingener & Ernest K. Bauer (to Am. Viscose Corp.). USP 2 454 930, Nov. 30, 1948.

An apparatus is described for the treatment of filamentary materials such as threads, yarns, twisted or untwisted bundles of continuous filaments, strands, cords, etc., with powders or dusting materials. The yarns, threads, etc., are run continuously from the extruding devices, over delivery rolls, and through a trough containing the treating material. The filamentary material then runs through traverse guides to the winding roll. A screw conveyor is used in a top trough in order to maintain a continuous movement of material through the trough and to form a mound of treating material at points where the yarns, threads, etc., pass. A second trough, placed below and offset from the top trough, also contains a screw conveyor, and is used to collect the excess powder or dusting material from the treated yarn and to catch the material passing out of the top trough. This lower trough carries the treating material to a chamber at one end where a bucket conveyor returns the material to the top trough. Excess particulate material is shaken from the strands by a vibrating rod extending the length of the spinning machine and located between the upper and lower troughs.
CCJ

Auto-Nip slub catcher release. Anon. *Am. Wool Cotton Reptr. 63*, 66 (Jan. 13, 1949).

A brief description is given of a new type slub catcher, the Auto-Nip slub catcher, which is claimed to be very effective in slubbing soft slubs, especially of the torpedo type.

Reel. Am. Viscose Corp. Australian P. 130 135, Feb. 18, 1946.

A reel for treatment of yarns comprises a rotatable body and 2 sets of longitudinally reciprocating concentric bars and carrying a yarn helically led through a rotatable whorl tube. The bars are respectively carried by sleeves and mounted on the body for rotation therewith and reciprocated longitudinally by cams to impart reciprocating motion to the bars in order to displace the yarn wound thereon towards the other end of the reel where the yarn is removed through a whorl similar to the whorl mentioned above. Treatment liquids are applied to the yarn at a plurality of longitudinally spaced points along the reel.

Thread finishing machine. Albert E. Winslow (to Universal Winding Co.). USP 2 456 804, Dec. 21, 1948.

This machine is designed to treat threads or yarns which are to be knitted, braided, woven, or the like, and gives improved heat control, drying, uniformity, controlled tension, and automatic cut-off of heat when the machine is stopped. The thread is taken from cones or similar packages through the size box and between the squeeze rolls in such a manner that the lowest squeeze roll is immersed in the sizing or solution. The yarn then passes horizontally through the drying chamber in which are located rotating brushes which brush the treating material into a uniform coating. The yarn is subjected to stretching between the feed rolls and delivery rolls. Heat for drying is obtained by overhead infrared units or similar devices. The moisture-laden air is exhausted below the threads and around the brushes. The delivery rolls take off the yarn at a controlled tension, and it is then passed through a cooling chamber and onto rewinding beams. The overhead heating elements are designed in such a way that they can be automatically cut off or the entire overhead assembly raised quickly from the yarns.
LCL

Special yarns B 7

Device for manufacturing fancy and decorative twist based on patent application G 105 778 VII/760. Gahlert & Söhne. Ger. patent application G 108 470, Nov. 15, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3383-3392. *Bibl. Sci. Ind. Reports 6*, 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Yarn products B 8

Braiding machine. Percival L. Hobourn & Wm. H. Joy. USP 2 458 379, Jan. 4, 1949.

An improved braiding machine is characterized by the provision of guide track members only at the circumferential junctions of the notched discs to effect a transfer of wandering spindles between adjacent notched discs. Each wanderer spindle follows a sinuous path and its transference from one disc to the other is effected by means of the change-over guide tracks, or inserts positioned under the notched discs at points where the circumferences are adjacent. This design dispenses with the continuous sinuous track hitherto used in braiding machines, thus reducing wear and the amount of power required to drive the machine.

Method and mechanism for manufacturing threads wound together. Vereinigte Jute-Spinnereien und Webereien A. G. Ger. patent application

V 38 173 VII/76c, Oct. 28, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3268-3273. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Drawings included.

Spool of thread. Geo. Kinnear & Sons. Australian P. 129 790, Jan. 10, 1946.

A spool of thread wound according to "universal" method and without a core has an outer envelope which is in contact with the cylindrical portion and one end of the spool. The envelope supports the outer layers of the thread during unwinding and covers the end of the spool from which the withdrawal of the thread would cause increase in the thread twist. The outer (upper) end of the spool, from which the unwinding will reduce the thread twist, is open to allow the thread to be withdrawn from the center of the spool without tangling. The outer end of the thread projects upwardly from between the outer periphery of the spool and the envelope to be in a position ready for attachment to the inner end of a next spool and to free the empty envelope.

Thread for web, knitted web, braided and embroidered fabric, etc. Chemische Werke A. G. Ger. patent application C 57 824, Nov. 30, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3279-3283. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Thread of yarn with ground thread. Osvaldo Bigatti. Ger. patent application B 194 032, Apr. 22, 1941. FIAT Microfilm Reel C-157. PB L 74390; frames 3254-3258. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Tire cords or yarns. Dunlop Rubber Co. Ltd. & Dunlop Cotton Mills Ltd. Australian P. 129 761, Dec. 21, 1945.

Cords and yarns are treated to improve their tensile strength, whilst still retaining good extensibility, by stretching them while subjected to the action of steam, then submitting them to a further steaming while under a load which allows retraction to take place. Preferably they are prewetted and stretched under a load of about 10 lbs., while the load applied during the retraction operation is not more than 1% of the stretching load.

Twisting method for manufacturing sewing threads of staple fiber. Rudolf Ehlich. Ger. patent application E 56 017, May 1, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3410-3412. *Bibl. Sci. Ind. Reports 6*, 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Yarn or thread. Osvaldo Bigatti. Ger. patent application B 202 806, June 2, 1943. FIAT Microfilm Reel C-157. PB L 74390; frames 3334-3335. *Bibl. Sci. Ind. Reports 6*, 1029 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Yarn applications B 9

Manufacture of pom-poms. A. Warhaft Pty. Ltd. Australian P. 129 705, Oct. 25, 1946.

A substantial portion of the process of manufacturing pom-poms is performed automatically by drawing the fiber from which the pom-pom is to be made through a bell mouth or other means for constricting its cross section. A relatively soft wire is fed to the narrow end of the bell mouth through a curved guideway which imparts an initial curve to the wire and causes it. as it is fed forward, to form a coil around said narrow end. The coil is moved from the narrow end of the bell mouth axially on to the fiber, and is then crimped or otherwise constricted upon the fiber.

Yarn testing and numbering B 10

Mill testing worsted yarn counts. Howard Martin. *Textile Mercury & Argus 117*, 61-2 (July 18, 1947).

Factors involved in routing testing of counts and initial count testing of new lots are discussed, and procedures to be used are described.

FABRIC PRODUCTION C

Yarn preparation C 1

Cotton warp sizing 16-20. Paul V. Seydel. *Textile Industries 112*, 123, 124, 126, 131 (May, 1948); 123, 125, 126 (June, 1948); 177 (Sept. 1948); 141, 143, 145, 147 (Oct. 1948); *113*, 127, 129, 131, 133, 170 (Jan. 1949).

The discussion of cotton warp sizing is continued; new developments and automatic controls are noted. (For previous articles see TTD: *4*, 78, 212, 315; *5*, 163, 666).

New slashing and drying methods. Anon. *Am. Wool Cotton Reptr. 63*, 7-8, 13, 15, 17 (Jan. 20, 1949).

In a report of the fall meeting of the Georgia

Textile Operating Executives, 2 papers: "Air Drying versus Contact Drying" by Paul J. Wenzel and "Direct Fired Warp Drier" by J. R. French, are given. A condensed summary of the discussion on 9 slashing questions is also reported.

Preparation of size mixes. Lee H. Elizer, Chemical Service Laboratory. *Textile Bull. 74*, 64, 65 (July, 1948).

The principles of size, the preparation of size mixes and the chemistry involved are reviewed briefly.

Research analyzes the textile drying market. Ralph W. Feil, Inst. of Textile Technology. *Textile Bull. 74*, 55-6, 58-9 (Aug. 1948).

This is an account of a survey conducted by the Institute of Textile Technology on textile drying operations. Efficiency of conventional drying units was compared with that of electric infrared, and high frequency dielectric drying. Data are given on drier performance, heat transfer efficiencies, drying costs and performance characteristics of dryers, ratio of loom to slashers, annual potential electric market for slasher drying, and number of spindles and driers covered by the survey. As a result of the investigations the following conclusions were reached: (1) Continuous drying of thin materials should be stressed as the trend is toward continuous processing; (2) in most cases, drying efficiency can be improved through redesign of the moist-air removal system; (3) steam can driers were the most efficient and economical type of continuous drier which was investigated experimentally; (4) drying should be incorporated with other textile operations wherever possible; (5) high frequency dielectric drying is best suited to package drying where deep penetration is essential; (6) electric infrared drying is applicable to continuous drying of thin textile materials and should be seriously considered as a competitor of steam in this field.

Slashers and slashing. VI-X. A. E. Silcox. *Textile Age 12*, 56, 58-9, 60-1 (July, 1948); 75-8, 80 (Aug. 1948); 62-4, 66, 68 (Oct. 1948); 44, 46-8, 50-1 (Nov. 1948); 58, 60, 62-4, 66 (Dec. 1948).

The discussion of slashers and slashing is continued in detail. Parts VI-VIII are devoted to discussion of the head end and its operation. Part IX is a discussion of slasher operations, including placing the slasher in operation, controlling tension, calculating production, controlling atmospheric conditions, and determining drying rates. Part X is a discussion of the cooking kettle, storage kettle and size pump. The preparation of various sizes, dye selection, temperature, and agitation are also discussed. (See TTD: *5*, 416, 495).

Warp beam handling system. Anon. *Am. Wool Cotton Reptr. 63*, 12-13 (Jan. 6, 1949).

A system for transporting warp beams from the slasher to the next operation includes a Lewis-Shepard warp beam stand and a Speedlift truck. Once the warp beam is placed on the stand at the slasher it is unnecessary to remove it until it is put into the loom.

Warping machine storage device for temporary unwinding of the warp. Fritz Lambach. Can. P. 445 319, Dec. 2, 1947.

This invention provides a storage device for a temporary unwinding of a portion of the warp from the beam on a warping or beaming machine driven by an electrical motor.

Weaving C 2

Automatic loom—defects, causes and remedies. E. O. Hesse. *Melliand Textilber. 29*, 13-16 (Jan. 1948); *in German.*

Twelve causes of trouble with automatic bobbin-change looms and the effects of faulty operation are discussed.

Double cylinder jacquard. Anon. *Textile Age 12*, 84, 86 (Dec. 1948); *Textile Industries 113*, 177 (Jan. 1949).

Features of a new high-speed, hook, double-lift, double-cylinder jacquard that is said to give smoother operation and reduced maintenance, are described.

Fast or loose reed loom swell. Tuner. *Textile Mfr. 74*, 464-5 (Oct. 1948).

The features of the Macro swell (shuttle binder) are described and discussed. It can be fitted to most single shuttle looms and to box looms having a circular box at one side and a plain box at the other.

Larger packages in weaving. Anon. *Textile Industries 113*, 108-9, 111, 113, 115, 117 (Jan. 1949).

A report on the weaving forum conducted by the Georgia Textile Operating Executives includes discussions on larger packages in weaving, loom lubrication, air conditioning, and humidity in the weave room, etc.

Loom fixing course. III & IV. Arthur Abbott. *Tex-Age 12*, 52, 56, 58, 60-1 (Nov. 1948); 68, 70, 75-6 (Dec. 1948).

III. Instructions for fixing and maintaining a Kellogg loom are given with details for installing and starting new shuttles, boxing, aligning reeds, and pointers on pickers. Setting and testing battery clearance, setting and checking box fronts and box front leathers are also discussed. IV. The spring check for checking the shuttle and the importance of sweep are explained. Details for fixing the spring check and for adjusting steel spring bumpers, adjustment for sweep (distance of the picker stroke under power) and adjustment for power are given. (For parts I & II see TTD: *5*, 766).

Loop picker. Clarence M. Fuller (to Holbrook Raw Hide Co.). USP 2 458 936, Jan. 11, 1949.

This invention provides a loop-picker comprising a multi-part core in a hard block of animal hide shaped to contact the face of a picker stick, a loop fastened to the block and extending rearwardly therefrom to attach it to th picker stick, a number of inserts consisting of strips of alternately hard and soft material extending transversely of the core forwardly of the block, and a box-like cap of animal hide enclosing the front and 4 sides of the core with the inserts contained therein in full floating arrangement. The picker is protected from spreading by enclosing it on all sides by a hollow cap of relatively hard material. This design provides a hard, wear-resisting surface for contact with the metal shoe of the shuttle, a resilient cushion to take the shock of the shuttle impact, thus saving the picker stick from shock and preventing the shuttle from rebounding.

Machine for operating on heddles. Russell P. Drake (to Barber-Colman Co.). USP 2 457 649, Dec. 28, 1948.

This invention provides a machine for operating on heddles which includes a means for detecting the release of more than one heddle and which interrupts the operation of the releasing means so that the improperly positioned heddle can be removed. A counting mechanism is also provided that affords a direct reading of the number of heddles released.

Method for manufacturing web and knitted web of good absorbability and high resistance against wear and wetness made from mixed yarn of fully synthetic fibers and cellulose fibers. Anon. Ger. patent application P 84 173, May 8, 1942. FIAT Microfilm Reel C-157. PB L 74390; frames 3211-3214. *Bibl. Sci. Ind. Reports 6*, 1028 (Sept. 12, 1947). Enlargement print $1.50; *in German.*

Addition to patent application P 83 801 VII/76c. Drawings included.

Modern methods of designing and card-cutting—III & IV. A. T. C. Robinson. *Textile Mfr. 74*, 458-61 (Oct. 1948); 508-13 (Nov. 1948).

Part III is a discussion of the technique of condensed designing; Part IV discusses the Uhlig machine which cuts condensed designs rapidly and economically. Details of a number of designs and their construction are given in both articles. (For Parts I-II see TTD: *6*, 122).

Novel check fabrics. John H. Strong. *Textile Mercury & Argus 117*, 57-9 (July 18, 1947).

Several check patterns are described and directions given for weaving them.

Open-work fabrics. John H. Strong. *Textile Mercury & Argus 117*, 167, 169 (Aug. 8, 1948).

In this discussion of mock leno weaves, the importance of denting the threads in the reed is stressed and a number of designs are given and described.

Overlooker's [overseer's] case book. W. Middlebrook. *Textile Mfr. 74*, 406-7 (Sept. 1948).

This is a continuation of the article from the August 1948 issue (see TTD: *6*, 122) and contains notes on a number of weaving problems and their solution.

Pneumatic picking apparatus. J. Heaton. Australian P. 129 815, Jan. 7, 1946.

A picking apparatus for driving a loom shuttle comprises shuttle boxes connected to a source of compressed air, to admit air into the boxes through alternately actuated valves in a chamber, to drive the shuttle back and forth, and an adjustable back air pressure relieving means in the box to vary the arresting effect of the air cushion built up in each box by back air pressure created by the return of a shuttle to the box.

Practical problems of processing nylon yarns. Anon. *Silk & Rayon 22*, 1420, 1422 (Oct. 1948).

This is a discussion of some of the practical difficulties encountered in the processing and weaving of nylon, and some of the most suitable types of nylon-wool yarns for lightweight fabrics are noted.

Rayon weaving and throwing in Germany. E. C. Geier. (QM Textile Series Rept. 42). June, 1947. 75 p. PB L 81055. *Bibl. Sci. Ind. Reports 6*, 813 (Aug. 29, 1947). Microfilm $2.00, Photostat $5.00.

This report was prepared from reports, documents and interviews obtained by "Textile Finishing Team" Technical Intelligence Investigators in Germany. It concerns itself mostly with the continuous filament types of yarn, their usage and application, and the mechanical means and methods used by the industry in the weaving and throwing operations during the conversion of these yarns into fabrics for military and peace or civilian purposes. In addition to a brief and compact over-all picture of the industry, a special effort has been made to explain in detail and illustrate manufacturing methods, or mechanical equipment which was found to be different, better, or novel from the American viewpoint. Almost 30 plants were visited. Among the outstanding methods or machines described in the report are: The double twist spindle, known as "Barmag"; the hollow spindle ("Kuag"); the three deck uptwister; the loom without superstructure; the plastic heddle; the Kreutzwalke, used on looms to facilitate abnormally high pickage in special fabrics; printing special maps; and the continuous process. Photographs, drawings, and tables are included.

Rearranging and combining weaves to produce new designs. Thos. Nelson, N. C. State College School of Textiles. *Textile Bull. 74*, 61-2 (Oct. 1948).

This is a discussion of 4 of the methods of rearranging and combining weaves for new designs; the 4 methods are: (1) rearranging ends and picks in satin order, (2) rearranging ends and picks by taking one or more ends and then skipping one, two, or more ends until the pattern repeats, (3) combining 2 weaves together, end to end, or pick to pick, (4) by 4 changes.

Setting the weave shed. E. Ullrich. *Melliand Textilber. 29*, 16 (Jan. 1948); *in German.*

The author explains how the usual setting of the shed causes an undesirable swinging up and down of the beating-up motion and how this can be prevented by adjusting the shed. The changes in the stresses on the warp caused by this adjustment are taken into consideration.

Shuttle for use in weaving wire fabrics. A. W. Paton & H. Marsland (to C. H. Johnson & Sons Ltd.). Australian P. 130 166, Mar. 7, 1946.

A shuttle for use in a loom adapted to weave wire fabrics, or fabrics incorporating wire as weft, is characterized in that the shuttle chamber has means for frictionally holding a resilient wire cap stationary relative to the shuttle, the cap being

spool-wound in cylindrical layers and having a hollow cylinder for drawing off internally, and being encased to prevent movement of the coils of the cap during handling. The means may comprise strips of rubber having transverse ribs thereon and the coils of the cap may be maintained by wrapping the cap with a "tacky" transparent adhesive material.

Spot designs. Thos. Nelson, N. C. State College School of Textiles. *Textile Bull. 74*, 93-4 (Sept. 1948).

The different methods used in making spot designs are briefly noted and directions are given for putting these spots on design paper. A number of spot designs are illustrated and discussed briefly.

Warner & Swasey-Sulzer weaving machine. Anon. *Textile Bull. 74*, 74, 76, 78, 80-1 (June, 1948).

Feature of the Warner & Swasey-Salzer weaving machine are described and illustrated. Detailed descriptions are given of the filling insertion, filling package, shuttle lay motion, selvedge formation, harness motion, warp and warp let-off, detectors and safety devices, and construction.

Warp beam letoff for looms. Thos. M. Russell, Jr. (to The Russell Mfg. Co.). USP 2 457 923, Jan. 4, 1949.

According to this invention, a warp beam letoff for looms comprises a pivoted arm, on which weights may be hung, attached to a brake band encircling a drum attached to each head of a warp beam. Threads from the warp beam are passed beneath a warp roller mounted on the pivoted arms and exert a lifting or lowering movement on the pivoted arms, which, in turn, applies or releases the pressure exerted by it on the brake band and drum.

Weft tightening and warp sorting device. Saint Freres. Australian P. 129 762, Jan. 15, 1946.

A spiked wheel following each shuttle is inclined at about 45° to the plane of the shed and has spikes inclined at 45° to the plane of the wheel. Each wheel rolls on sheets formed with closed sheds following a shuttle behind the point where the weft is inserted.

Knitting C 3

Arc welded looper stands. Wm. C. Reeden, Phoenix Hosiery Co. *Textile Industries 113*, 142, 145, 147 (Jan. 1949).

The use of arc welded frames on which to set loopers and to cover the line shafts is described.

Power factor is greatly improved, and accident hazards are reduced.

Full fashioned heel construction. Jos. E. Garrett (to Artcraft Hosiery Co.). Can. P. 445 338, Dec. 2, 1947.

The method of fashioning the heel fabric of a full fashioned stocking to widen it comprises transferring a predetermined number of loops at the edge of the fabric outwardly to the extent of one needle to form predetermined fashioning courses, transferring a predetermined greater number of loops at the edge of the fabric inwardly to the extent of 2 needles in predetermined spaced apart fashioning courses and forming the fabric in each course to the width determined by the next previous fashioning course.

Full-fashioned hosiery machines. Anon. *Am. Wool Cotton Reptr. 63*, 15, 17 (Jan. 13, 1949).

The various types of full-fashioned hosiery machines, including multiple head machines, single head machines, etc., are discussed as to their advantages and disadvantages. Temperature and humidity effects on these machines are described, and it is claimed that any type knitting machine runs better when the temperature is kept around 80°F.

German patent applications. Class 8b, Groups 10, 11 and 12: Improving and trimming yarn, fabric knit goods, etc.; mechanical portion. Reichspatentamt, Berlin. FIAT Microfilm Reel AA 68; frames 1-960. 303 items. 1877-1941. 960 f. PB L 70265. *Bibl. Sci. Ind. Reports 6*, 749 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $96.00; *in German.*

PB L 70265-S. Abstracts *in English* on the above prepared by FIAT. 302 p. Microfilm $7.00, Photostat $21.00.

Hosiery knitting machine. Eugene O. Nadon (to Vermont Hosiery & Machinery Co.). USP 2 457 782, Dec. 28, 1948.

This invention provides for adaptation of the Komet hosiery knitting machine to produce a stocking made in any one of the various forms which it is capable of producing, together with either a special advanced heel section, or a toe gusset, or with a heel gusset, or with certain combinations of these features. None of these results can be accomplished in the Komet machine in its present form, and this invention involves changes in the machine, with the aid of which stockings of the character described above can be produced while still obtaining the benefit of the unique features of the Komet machine.

Knitted fabric. Vicent Lombardi (to Lombardi Knitting Machine C., Inc.). Can. P. 444 969, Nov. 11, 1947.

This invention provides a knitted fabric comprising knitted main yarn, an elastic, metal, or glass yarn plated with certain of the loops of the main yarn, and other yarn disposed on the opposite side of the fabric from the main yarn in at least certain portions of the fabric, the other yarn being caught into the fabric in a different manner from the elastic, metal, or glass yarn.

Proper needles are important in producing knit fabrics. Geo. Ransom. *Textile Age 12*, 7, 10, 14, 16 (Dec. 1948).

Needles for knitting machines are discussed in relation to needle surfaces, butts, types of needles, and size uniformity. The importance of choosing the proper needle for the fabric being knitted is stressed.

Steam sizing machine. Wm. Kaplan (to Wilbe Research Corp.). USP 2 457 476, Dec. 28, 1948.

Various kinds of knitted tubular goods and knitted articles of wearing apparel may be accurately shaped or fashioned by means of a steam sizing machine comprising a perforated top and guide bars, or a skeleton spreading frame; the guide bars, or skeleton frame, may be raised or lowered by depression of a pedal. Another pedal is provided for controlling the application of the steam, the 2 pedals thus freeing the operator's hands for mounting, adjusting, and removing the knitted fabric or garment.

Stocking treatment. Luis Heldmaier. Can. P. 445 057, Nov. 18, 1947.

This patent describes an apparatus for pre-boarding nylon stockings which comprises an endless conveyor carrying forms for the reception of the stockings, a pre-boarding chamber through which the articles on the forms are passed, means for supplying live steam to the pre-boarding chamber, and at least one gas heater for supplementing the heat of the live steam supplied to the pre-boarding chamber.

Tops for "wrap" reverse hosiery. H. Wignall. *Textile Mfr. 74*, 518-9 (Nov. 1948).

Top production on single cylinder wrap reverse knitting machines is reviewed, and a novel type of German double cylinder machine is described.

Warp tensioning. Am. Viscose Corp. Australian P. 129 814, Jan. 7, 1946.

In a warp knitting machine, the warp supply beams are continuously driven to supply yarn at a

constant speed to the knitting needles over tension bars which control the tension of the yarn by varying the length of the path of the yarn in time relation to the requirements during knitting. The bars are controlled by a cam shaft through the cams and links. In a modification, the cams and links are dispensed with and the tension is controlled by an eccentric engaging the yarn surface and driven by the shaft. Various modifications of driving means for the beams are also described and claimed.

Yarn changing and splicing means. H. H. Holmes, A. H. Widdowson & Wildt & Co. Ltd. Australian P. 130 067, Feb. 15, 1944.

For a circular knitting machine, a yarn changing and splicing mechanism comprises a plurality of movable yarn guides, one or more for a striping yarn or yarns, others for a ground and splicing yarns, and means for automatically operating the said guides interchangeably so that a striping yarn is supplied to a section of the needles while the ground and splicing yarns are supplied to the remainder of the needles during a course or a succession of courses. Periodically and in intervals of knitting, the ground yarn only is supplied to the said section of the needles and both the ground and splicing yarns are fed to the remainder of the needles. Knitted fabric and half hose produced according to the invention are claimed.

Special fabrics C 4

Belting. Dunlop Rubber Australia Ltd. Australian P. 130 147, June 26, 1946.

Belting for conveyor or power transmission comprises at least 1 ply of woven fabric having 1 set of weft threads and 2 sets of warp threads. The weft threads are relatively straight transversely of the belt and the warp threads interlace the weft threads in such a manner that the warp threads of 1 set surface on 1 side only of the fabric, to provide a double faced construction.

Decorative fabric article. Frederick H. Untiedt. Can. P. 444 925, Nov. 11, 1947.

See USP 2 434 527, Jan. 13, 1948 (TTD: *5*, 434).

Electrically energizable fabric. Louis K. Schwartz (to Knapp-Monarch Co.). USP 2 458 801, Jan. 11, 1949.

This invention provides a flexible fabric having warp and weft threads, one of the weft threads comprising one or more electrical heating elements which are knitted into the fabric in a knitting machine with a resultant continuous length of fabric having the electrical element integral therewith and the continuous length of fabric being capable of being cut into individual units on a bench away from the knitting machine without severing the electrical element except at desirable points of a unit where electrical connections are made to the element, the cutting of the fabric into units not destroying the function of the electrical circuit through the element. The fabric may be used for heating pads or electric blankets, aviators' clothing, etc.

German wool textile and mantle plush manufacture. M. Barber & others. BIOS Final Rept. 810, Item 22. May-June, 1946. 66 p. PB L 77277. *Bibl. Sci. Ind. Reports 6*, 982 (Sept. 12, 1947). Microfilm $2.00, Photostat $5.00.

For the purposes of this report the industry is taken to include on the woolen side all processes from the raw material to the finished cloth; on the worsted side the preparation of the yarn, weaving, dyeing, and finishing, together with the weaving and finishing of plush fabrics chiefly for mantles. A total of 35 firms, both large and small, were visited and a brief description of the plant is given. Photographs are included.

Pile fabrics. W. F. Fuhrhop & H. van Issum. Australian P. 130 161, Feb. 14, 1946.

Yarns are wound on suitable frames or rods, assembled in closely arranged multilinear formation in a mould and consolidated in a medium which is capable of subsequent removal. The consolidated mass is severed into strips, and a portion of the consolidating medium is removed, from one face, by means such as a combined heater and scraper, to leave a portion of the ends of the yarn protruding. A plastic or similar backing is applied to the protruding yarns, and the remaining consolidating medium is then removed to expose the finished pile.

Pile-rubber surfaced material. U. S. Rubber Co. Australian P. 129 744, July 14, 1945.

A product having a surface which simulates pile carpeting comprises a base layer whose surface is formed of a multiplicity of adjoining embossments, each with a flexible pile-like porous rubber element united thereto. The pile-like elements are produced by spraying the embossed base layer with a fine stream of latex dispersion with which is co-mingled a spray of coagulant for the latex. The dispersions build up in localized tufts on the embossments to which each is united by vulcanization.

Survey of the German pile fabric industry. R. G.

Fargher & others. BIOS Final Rept. 814, Item 22,31. Jan. 1947. 56 p. PB L 77700. *Bibl. Sci. Ind. Reports 6*, 982 (Sept. 12, 1947). Microfilm $2.00, Photostat $4.00.

This survey was undertaken by a team of five members, two of whom investigated the weaving establishments and the other three the works which undertook the dyeing, printing and chemical or mechanical finishing of pile fabrics. This report is divided into two sections, the first comprising a review and the second a description of 38 individual targets visited. Photographs and sketches are included.

Inspection and testing C 5

Analysis of some unusual rayon fabric defects. T. Grindley, Courtaulds (Canada) Ltd. *Textile Mfr. 74*, 535-7 (Nov. 1948).

See TTD: *6*, 129.

Fabric applications C 6

Cathode beam tube. Lee de Forest. USP 2 457 981, Jan. 4, 1949.

A cathode beam tube, used for television picture reception, is described which utilizes a fibrous target surface made of spun glass, quartz, rayon, nylon, or silk. The fibrous members may be in a form such as the nap of velvet or velour.

Plastic fabrications. R. Anderson. Australian P. 129 590, Apr. 23, 1945.

To provide a rigid inelastic supporting means such as a surgical cast, a fabrication of soluble plastic threadlike filaments is treated with a solvent solution which has a saturation value for the plastic of less than 300 milligrams per 100 cc. of solution. Preferably a knitted cellulose fabric is pretreated to reduce shrinkage, cut into bandage size strips, and bound about an injured member in several layers, after which a treating solution, consisting of a solvent (e.g., acetone) saturated with the plastic concerned, or a solvent plus diluent, to reduce the solubility value to about 100 milligrams of plastic per 100 cc. of solution, is applied to unify the fabrication.

Plastics in agriculture protect crops and control growing conditions. Anon. *Plastics 8*, 27 (Nov. 1948).

Experiments are being conducted with Velon screening cloth over shade-grown tobacco in the Connecticut Valley. The open mesh cloth may be used repeatedly instead of being discarded each season; early tests indicate that perhaps Velon

cloth provides a greater diffusion of light, permits a higher degree of moisture retention, and affords a greater protection against frost than conventional fabric shade material.

Stiffened fibrous base materials. The British United Shoe Machinery Co. of Aust. Pty. Ltd. Australian P. 129 615, Jan. 29, 1946.

Articles comprising a fibrous base charged with a stiffening substance which are adapted to be treated with a solvent in order to bring them into a temporarily flacid condition for reshaping prior to use are produced by a method which comprises taking a fibrous base material or article, charging it with a cellulose derivative in a finely divided or porus, precipitated condition, substantially free from solvent, and incorporating therein prior to, or simultaneously with, the solvent treatment, a borate gelling agent which, in consequence of the solvent treatment, produces a gelling of the cellulose stiffening substance whereby the article becomes pliable but not sticky when handled. Articles exemplified are stiffeners for shoes, surgical splints, encasements and dress forms.

STANDARD FINISHING D

"Aqualized" gums. Anon. *Textile Industries 113*, 181-2 (Jan. 1949).

Gum tragacanth, locust bean (Caroh) and Karaya are treated by a new process. The process, known as "Aqualized" Gums, will go into solution in a matter of minutes without the formation of lumps and without requiring to be boiled, treated with alkali, etc. The process does not change the physical properties of the gums or their solutions.

Bleaching process. W. J. Rosstowzew. *Tekstil'naya Prom. 7*, 28-30 (Oct. 1947). (through *Chemisches Zentralblatt*); *in Russian;* abstract *in German.*

On the basis of the author's experimental work, it is recommended that the textile fabric be soaked at 40-50°C in a solution containing 3-4 g chloramin, 4 g contact sulfuric acid and 0.1 g Cu salt in a liter, then heated for 1-2 min. at 90-92°C. Then the washed out fabric is treated 40 min. at 90-92°C with a solution of 16 g 100% NaOH and 5 g of a wetting agent. After repeated washings, the usual bleaching agents were added.

Bleaching process and composition. Ralph R. Oliver (to Lockport Cotton Batting Co.). Can. P. 445 259, Nov. 25, 1947.

This patent describes a method and composition for the cold bleaching of cellulose fibers. The ma-

terial to be bleached is subjected to the simultaneous action of a hypochlorite bleaching agent and an organic glucosate of the type which is coagulated by bi-valent ions to form colloidal particles. The composition used for cold bleaching, and which gives the bleached fibers a good luster, a high brilliancy, and freedom from encrusting materials, comprises a mixture of hypochlorite bleaching agent and an agent containing an inorganic beta glucosate and capable of coagulation by bi-valent ions to form colloidal particles.

Evaluation of soaps and synthetic detergents. M. S. Furry, V. I. McLendon, & M. E. Aler, USDA. *Am. Dyestuff Reptr. 37,* 751-9 (Nov. 15, 1948).

A group of about 50 soaps and synthetic detergents were employed to wash artificially soiled cotton fabric in the Launder-Ometer to compare their value as detergents for home laundering of fabrics. Soil-removing efficiency was judged by the change in light reflectance produced by the various detergents. Soaps were more effective than synthetic in distilled water, but the synthetics were superior in hard water. Both types of detergents were more effective at 60°C than at 40°C.
WPU,jr.

Evaluation of ternary mixtures: synthetic detergent-soap-builder. J. J. Morrisroe & R. G. Newhall, Oronite Chemical Co. *Ind. Eng. Chemistry 41,* 423-29 (Feb. 1949).

Ternary systems of soaps plus synthetic detergents and builders (electrolytes) form a relatively unexplored field. This paper reports studies of detergency, foaming, and pH for mixtures of sodium stearate, an alkyl aryl sulfonate detergent, and various builders in an artificial hard water. Foaming was measured as height of the foam layer a controlled impact of the solution falling in a glass cylinder. Detergency was measured by Launder-Ometer tests on cotton cloth soiled with oil, tallow, and lampblack, and expressed as percentage increase in visually apparent whiteness. Phosphate builders yielded the expected maxima in detergency in binary mixtures with both soap and detergent, with tetrasodium pyrophosphate (TSPP) giving the best performance. Binary soap-builder mixtures showed little foam, while foaming of detergent-builder mixtures was maximum at 10-20% builder. Sodium carbonate, metasilicate, and bicarbonate, and borax improved detergency and foaming little, and in the first 2 cases, caused high alkalinity. Ternary mixtures with TSPP builder showed augmented detergency over a wide range of compositions, with maxima

at 20:55:25 and 0.75:25 ratios of synthetic detergent-soap-builder. Foaming was minimum for soap or builder and maximum for 75:25 detergent-builder. These data therefore show the possibility of high detergency in ternary mixtures with foaming controllable at any level, low or high, in hard waters.

Hypochlorite-chlorite bleaching process. M. P. Koslow. *Tekstil'naya Prom. 7,* 30-1 (Aug. 1947). (through *Chemisches Zentralblatt*); *in Russian;* abstract *in German.*

The damaging of cotton fabrics by bleaching with a mixture of calcium hypochlorite and sodium chlorite (with 60 or 40% active Cl) was reduced to a half through industrial research by the production of a higher and more stable grade of bleach.

Industrial applications of the sodium silicates: some recent developments. Reynold C. Merrill, Phila. Quartz Co. *Ind. Eng. Chemistry 41,* 337-45 (Feb. 1949).

This review article contains sections on 2 silicate applications of interest to the textile industry: as soap builders and as detergents. Sodium silicates are effective soap builders. They prevent redeposition of soil, especially of siliceous pigments and they can replace up to 40% of the soap and improve its washing action. With synthetic detergents, optimum builder concentration may reach 60%. Sodium silicates themselves, alone or combined with phosphates, make useful detergents. Diverse uses of sodium silicate detergents in textile industries are mentioned, and an extensive bibliography on adhesive and detergent uses for silicates is included.

Machine for splitting tubular fabric, opening it and extracting moisture therefrom. Harold W. Birch. Can. P. 445 302, Dec. 2, 1947.

See USP 2 410 146, Oct. 29, 1946 (TTD: *4,* 56).

Miscellaneous patents dealing with textiles and chemicals. Reichspatentamt. FIAT Microfilm Reel AA 79; frames 8684-9691. 340 items. 1886-1940. 1007 f. PB L 70269. *Bibl. Sci. Ind. Reports 6,* 752 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $101.50; *in German.*

PB L 70269-S. Abstracts *in English* on the above item prepared by FIAT. 340 p. Microfilm $7.00, Photostat $23.00.

New instrument measures and controls moisture. Anon. *Textile Age 12,* 92-4, 96-7 (Dec. 1948).

The Drimeter for measuring and controlling moisture on drying machines and slashers, consists

of an electronic hygrometer and a condenser with 2 plates, between which the yarn or fabric passes. The capacitance of the plates varies with the moisture in the textile material. An automatic control mechanism is available for varying the speed of the yarn or fabric in relation to moisture content as measured by the condenser. An average increase of 20-30% in the output, improvement in the quality of the fabric, and lowering of operating costs are claimed. In warp sizing, the accurate control of moisture also assures maximum weaving efficiency and controls mildew.

Patent applications of the Textile Auxiliary Aids Commission. I. G. Farbenindustrie A. G. FIAT Microfilm Reel C 54. 1937-1938. 724 f. PB L 16682. *Bibl. Sci. Ind. Reports 6*, 749 (Aug. 22, 1947). Microfilm $6.00; *in German.*

Patents: Miscellaneous chemicals and textiles. Reichspatentamt, Berlin. FIAT Microfilm Reel AA 103; frames 327-1367. 482 items. 1892-1939. 1040 f. PB L 70280. *Bibl. Sci. Ind. Reports 6*, 752 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $104.00; *in German.*

PB L 70280-S. Abstracts *in English* on the above item prepared by FIAT. 482 p. Microfilm $10.00, Photostat $33.00.

Polyphosphates are boon to textile finishers. Anon. *Textile World 98*, 133, 220-26 (Nov. 1948).

Three widely useful sodium phosphate compounds differ in certain characteristics, but have the property of combining with calcium and magnesium ions and preventing the precipitation of Ca and Mg salts on cloth during finishing operations. They are useful in scouring, bleaching, dyeing, and other finishing operations where hard waters are a disadvantage. The alkalinity of solutions of these compounds is not sufficiently high to cause harm to rayon and other fabrics. Although these compounds have some tendency to revert or precipitate, this is not a disadvantage in kiering or similar operations. No local agglomeration is found, and the precipitates are readily removed by finishing operations. The same properties of these compounds makes them very useful for boiler water treatment as they not only combine with the calcium and magnesium ions present, but they also reduce the alkalinity of boiler water. Care must be taken in storage of these materials to prevent reversion, and in general, storage should be in cool, dry places.

LCL

Steam treatment of textiles. The Mathieson Alkali Works. Australian P. 130 431, May 27, 1946.

Apparatus for the steaming of textiles to insure uniform treatment and avoid sharp creases in finishing operations, comprises, in combination, a closed steam chamber having lateral conveyors and disposed therein, with a beater roll extending transversely of the conveyors and positioned vertically above an inclined guide member so that when a ribbon of cloth is continually introduced through a slot over the beater roll it is caused to fall in accordion folds onto the guide member and thence to the conveyors which carry the material to and fro through the treating fluid with the folds in a substantially upright position. A closed pre-treating chamber having rolls adapted to carry the cloth repeatedly between perforated fluid injection tubes, is preferably incorporated in the apparatus.

Tensitrol—its development and application. Anon. *Textile Bull. 74*, 160, 162, 164 (May, 1948).

The development of Tensitrol and its application to continuous wet processing is discussed. The Tensitrol principle involves control of roller speeds so that the fabric is processed under minimum tension at all times. The system is applicable to the continuous dyeing, washing, and bleaching of a wide variety of fabrics, including woolens, worsteds, rayon prints, and knit goods.

Whether to mercerize before or after dyeing acetate mixtures. Anon. *Silk & Rayon 22*, 834, 836, 838 (June, 1948).

The advantages and disadvantages of mercerizing before and after dyeing acetate mixtures are discussed, the author's preference being for mercerizing before dyeing. In the final analysis, however, the individual dyer must decide, and his decision will, in part, be determined by the mechanical facilities at his disposal.

DYEING AND PRINTING E

REPORT ON COLOUR TERMINOLOGY. By a Committee of The Colour Group, The Physical Society. London, The Physical Society. 56 pp. Price: 7s.

This report places on record terms commonly used in the field of color, with clear definitions peculiarly free from the usually highly scientific language of the physicist. Recommendations are also made for a consistent terminology throughout commerce and industry. Separate lists of terms of accepted significance in each industry or trade concerned, i.e., the dyeing industry, the paint and pigment industries, printing industries, color photography, glass industry and decorating trades, are defined

and discussed. . . . Color terminology is always of inferest to the dyer, finisher and printer of textiles, and this report provides a very readable survey, which is both instructive and informative. The section describing and discussing terms used in the dyeing industry has been nicely clarified and the three main color variables of the dyer are discussed under strength, dullness (and conversely brightness) and hue.—*Dyer 100*, 88 (July, 16, 1948).

Story of decorated textiles. Max Bender. *Interchem. Rev. 7*, 3-15 (Spring, 1948).

The development of printing and dyeing is traced from their earliest beginnings to modern times, and a number of the machines developed for these operations are noted.

Advances in dyeing and textile printing processes in England. H. A. Turner. *Am. Dyestuff Reptr. 37*, 771 (Nov. 15, 1948).

A brief review is given of recent English advances in dyeing and textile printing, including the development of soluble phthalocyanine dyes, the compilation of a new color index, research on the mechanism of the dyeing processes, and the increased use of the silk-screen method of textile printing.
WPU,jr.

Auxiliary products in dyeing. H. C. Borghetty, Gen. Dyestuff Corp. *Am. Dyestuff Reptr. 37*, 785-7 (Nov. 29, 1948).

The use of auxiliary products, principally surface-active agents, in dyeing is reviewed. The general fields of use of these auxiliaries, the methods of testing their effectiveness, the chemical constitution of the various types of surface-active agents, and recommendations as to which types work best in various dyeing processes are discussed.
WPU,jr.

Circular or elliptical winch machine for dyeing of rayon. Anon. *Silk & Rayon 22*, 1134-5 (Aug. 1948).

The advantages of circular and elliptical winch wheels are discussed; the selection of either, however, must be determined by the type of fabric to be dyed. The elliptical winch wheel is better for fabrics that crease easily.

Cross-dyed spun yarn fabrics. Anon. *Am. Wool Cotton Reptr. 63*, 13-14, 53 (Jan. 13, 1949).

The characteristics of rayon crash fabrics are described, and a cross-dyed spun yarn crash fabric is analyzed. The crash fabric that is analyzed is woven of 2 yarns with the same chemical or dyeing characteristics. The warp consists of a fine cotton yarn twisted with a regenerated type rayon novelty yarn, and the filling is made entirely of ordinary acetate-type fiber with bunches of the same acetate composition. The material is of a piece-dyed character with the warp one color and the filling another color. Problems in manufacturing this fabric are also discussed.

Different behavior of acetate rayon dyes applied to nylon. Anon. *Silk & Rayon 22*, 1264, 1266, 1268, 1270, 1273, 1274 (Sept. 1948).

In this discussion of acetate rayon dyes as applied to nylon, a number of tables are given showing the dyeing characteristics of various dyes. It is shown that acetate rayon dyes can be used for nylon whenever satisfactory, but not superlative, fastness is required.

Dyeing characteristics of some wool dyes. H. Briggs. *Dyer 99*, 341-4 (Mar. 26, 1948).

In a lecture, the author discusses the graphical method of representation of the main dyeing characteristics of both new and established wool dyes, and describes a few simple dyeing tests that will enable the user to obtain a pictorial representation of those characteristics. The object of the graphical representation is: (1) to give a clear picture of the individual dyeing properties of a large number of dyestuffs; (2) to enable the appropriate dyeing method to be determined for individual colors or for mixtures of 2 or more colors; (3) to select appropriate dyestuffs for combination shades or for application by predetermined methods.

Dyeing of nylon fibers by treating with nitrogenous condensation products. Jas. H. MacGregor (to Courtaulds Ltd.). USP 2 458 397, Jan. 4, 1949.

This invention provides a process for dyeing nylon fibers at an enhanced rate of absorption with direct cotton dyestuffs having little affinity for nylon which comprises incorporating in the nylon fibers a water-insoluble condensation product of formaldehyde and a member of the group consisting of cyanamide, dicyanamide, melamine, guanidine, biguanide, dicyandiamidine, alkyl, hydroxyalkyl, and aryl substituents of guanidine, biguanide and dicyandiamidine and dyeing the fibers with the direct cotton dyestuff from an acid dyebath.

Dyeing uncarbonized woolen seams rags. Anon. *Dyer 100*, 133-45 (July 30, 1948).

The difficulties in dyeing uncarbonized woolen rag stocks, or seams, are discussed and suggestions are given for overcoming them.

Effect of protein derivatives on dyes. Herbert Gerstner. *Melliand Textilber. 28,* 133-35 (Apr. 1947); *29,* 25-8 (Jan. 1948).

Published information on the effects of the products of protein hydrolysis on dyeing are reviewed and the fiber-protecting action, the dispersing and the equalizing action are related to the structure of the proteins or of the proteolytic products, especially to the amphoteric nature of the amino acids. The peptide-like substances of the protein derivatives act as a buffer, protecting the fiber from the injurious effect of acids and bases. They slow down the dyeing process and equalize the distribution of the color.

Finnish scientist patents new system of color measurement. Anon. *Silk & Rayon 22,* 1248, 1250, 1252 (Sept. 1948).

A new system of color measurement developed by Otto Syreeni, of Finland, is described, and its features are compared with other systems.

Fluorescent cellulose acetate filaments. Richard R. Sitzler & Geo. E. Dennison (to Celanese Corp. of Am.). USP 2 457 838, Jan. 4, 1949.

Artificial filaments of outstanding color intensity under daylight and artificial ultra-violet light, and which are substantially identical under either type of light, are produced by incorporating a finely divided fluorescent pigment in the spinning solution and then dyeing the filaments produced from this solution with a fluorescent dyestuff that is highly resistant to changes in shade on continued exposure to ultra-violet light. The fluorescent pigment and dyestuff employed must be such that together they yield a color which does not vary appreciably when viewed by visible light or under ultra-violet light.

Fluorescent red cellulose acetate fibers. Robt. G. Dort (to Celanese Corp. of Am.). USP 2 457 808, Jan. 4, 1949.

Artificial filaments of outstanding color intensity under daylight and artificial ultra-violet light are produced by incorporating a finely divided colored fluorescent pigment in the spinning solution and then dyeing the filaments produced from this solution with a fluorescent dyestuff. The claims limit this patent to the use of a pigment consisting of a zinc fluoride fluorescent in a red color and a fluorescent dye consisting of the hydrochloride of diethyl-m-amino-phenol-phthalein.

High fastness to rubbing; reason for poor results in dyeing expensive suiting cloths. Anon. *Dyer 99,* 129-30 (Jan. 30, 1948).

Causes of unsatisfactory fastness to rubbing are discussed and suggestions are given for their correction.

Jigger dyeing woven rayons and use of the end-cloth. Anon. *Silk & Rayon 22,* 1413-15 (Oct. 1948).

The dyeing of fabrics in a jigger can be greatly assisted by using end-cloths of suitable type and length. Incorrectly used, however, they can of course be disadvantageous. The use of end-cloths is discussed, and suggestions are given for using them to advantage.

Liquor absorbency in jigger dyeing. Anon. *Silk & Rayon 22,* 830, 833 (June, 1948).

The structural characteristics and absorbent properties of fabrics have an important part in the dyeing of cotton and rayon fabrics in jiggers; this is because in jigger dyeing the fabric is not fully submerged in the dye liquor for the whole period of dyeing. Jigger dyeing is discussed with reference to the effect of structural characteristics and absorbent properties of the fabric on the process.

Note on wool dyeing fastness and levelness; the influence of molecule size. R. W. Moncrieff. *Dyer 99,* 77-8 (Jan. 16, 1948).

The characteristics of the wool fiber are noted briefly, and acid and chrome dyestuffs discussed. It is observed that the small size of the acid dyestuff molecules results in acid dyes giving uniform dyeings, but being inclined to bleed on washing. The large size of the chrome dyestuff molecules makes the dyeings fast to washing but rather unlevel.

Nylon stripping process. Anon. *Textile Age 12,* 98 (Dec. 1948); *Textile Industries 113,* 177, 179 (Jan. 1949).

A brief note is given on a new process for stripping nylon which gives almost complete dye removal by the use of Textone, a sodium chlorite product.

Wool and rayon dyeing. T Vickerstaff, Imperial Chemical Industries. *Am. Wool Cotton Reptr. 63,* 11 (Jan. 20, 1949).

A summary of a lecture delivered to the Philadelphia Section of AATCC on dyeing behavior states that 2 factors, affinity and the diffusion coefficient, control the dyeing process. Methods of measuring these factors are reviewed.

Blocks for hand block printing. A Technical Correspondent. *Textile Mercury & Argus 117,* 245-9 (Aug. 22, 1947).

Some of the more important aspects of block

printing are reviewed; topics considered are: preparation of blocks, transferring of designs to blocks, types of blocks, precautions, wood and felt blocks, coppered blocks, and copper and felt blocks.

Modern screen printing technique. A. S. P. *Dyer 99,* 623-7 (June 4, 1948); *100,* 21-7 (July 2, 1948); 77-80 (July 16, 1948).

In this survey of screen printing, topics considered are: Layout of the shop, table construction, fixation of the pieces, fitting devices, drying problems, the part played by human skill, how screens are made, hand and mechanical methods; steaming, washing and drying, the Star machine special effects, points for the colorist, and output to be expected.

Multi-color printing process. Anon. *Textile Mercury & Argus 117,* 746, 769 (Nov. 28, 1947).

A new multi-color printing process, developed by Madame Astra Sark, of Sark Royal Processes Ltd., Manchester, is described. The general principle of the invention is that it will print an unlimited number of colors at one process and from one roller. The pattern is transferred to the roller in the form of a plastic compound of the various colors; the cloth to be printed is treated with special chemicals before processing and the length of the run determines the depth of the plastic covering on the roller. Degree of penetration can also be controlled, and it is stated that pile fabrics with a pile of up to one inch in thickness have been printed so successfully that the colors have achieved penetration to the back of the ground cloth. A further advantage of the new process is that the rollers may be prepared in a very short time. The new machine is said to cost not much more than one-tenth that of an ordinary machine; it occupies one-quarter the floor space and weighs about one-twentieth of the gross weight of existing machines.

Requirements of petroleum solvents in pigmented textile printing pastes. R. A. Billmeier, Socony-Vacuum Laboratories. *Am. Dyestuff Reptr. 37,* 748-50, 759-60 (Nov. 15, 1948).

This paper reviews the effect of solvent composition on the performance characteristics of the concentrates used in printing with textile pastes. Various combinations of paraffin, naphthenic, and aromatic hydrocarbons with resin concentrates, water, and color constituent were prepared and used in the printing machine. Observations were made on such properties as stability of the emulsions and their printing characteristics. A mineral spirits having 16-20% aromatic components

with the balance made up of equivalent volumes of paraffins and paphthenes gave the best over-all performance.
WPU, jr.

Screen printing. Francis Tripp, New Bedford (Mass.) Textile Inst. *Textile Bull. 74,* 156, 158, 160 (May, 1948); 91-2, 94 (June, 1948).

The preparation of screens, printing techniques, materials, and finishing operations are discussed.

Screen printing machine. Robt. F. Foard. USP 2 458 773, Jan. 11, 1949.

This invention provides a number of improvements in the machine printing of textiles, including: means for interchanging various sets of screens without disturbing the registry for each set; means of moving in sequence a series of printing frames between a retracted, stacked position and an extended, printing position; a movable elevator in which the frames are stacked when not employed in printing, and an ejecting and retracting means which is inoperable unless the screen frames are in their desired position; means for printing individual pieces, such as blanks, as well as bolt material. (See also USP 2 206 176, July 2, 1940 and USP 2 369 290, Feb. 13, 1945).

Screen printing technique and practice. C. L. Wall. *Textile Mfr. 74,* 584-7 (Dec. 1948).

In this discussion of screen printing, attention is given to the materials in use, printing frames and tables, table coverings, drainage, and parking stands. It is suggested that improvement in the mechanical aspects of screen printing must await the reduction or elimination of the dimensional changes in unstable components.

Some problems of penetration in modern screen printing. Anon. *Silk & Rayon 22,* 1110, 1112, 1114, 1116, 1118 (Aug. 1948).

Factors affecting good penetration in screen printing include such variables as the surface of the printing table, the right use of the scraper, preparation of the cloth, content of the print paste, and means of drying and steaming. The advantages and disavdantages of the various methods available at each stage are described and their suitability to special printing jobs discussed.

Vat Yellow G in textile printing. A Technical Correspondent. *Dyer 99,* 233-6 (Feb. 27, 1948).

Difficulties encountered by textile printers in the application of this dyestuff are discussed and some suggestions for overcoming them are given.

Textile printing: skill or mystery? Elliott Broad-

bent, Glanylon Print Works. *Am. Dyestuff Reptr. 37*, 745-7, 760 (Nov. 15, 1948).

This is an address reviewing various problems concerned with textile printing, including the lack of standardization in the industry, the necessity for constant adjustment of rolls, doctor blade, etc., during printing runs, the difficulty of obtaining uniform quality in engravings, and offering some suggestions for overcoming these difficulties.
WPU,jr.

SPECIAL FINISHING F

Water-repellent material. Francis J. Norton (to (Canadian General Electric Co. Ltd.). Can. P. 444 953, Nov. 11, 1947.

This patent describes a process of waterproofing organic fibrous materials which comprises treating the materials with a composition consisting substantially of a mixture of from 45 to 55 mol. per cent trimethyl silicon chloride and 55 to 45 mol. per cent silicon tetrachloride.

Anti-shrinking treatment of wool. Wolsey Ltd. Australian P. 130 001, Nov. 13, 1945.

Material consisting wholly or partly of wool as yarn, fabric or piece goods is subjected to immersion of up to a few minutes in an aqueous solution of potassium of sodium permanganate and acid, the pH value of the bath being not more than 2.0. A preferred bath consists of 70 gallons of water, 1 pound of permanganate, and 7 pounds of concentrated sulfuric acid, at 20°C. A bleaching bath of sodium bisulfite is used to remove the coloration caused by the permanganate.

Equipment and shrinkage. C. P. Atkinson, Spooner Dyer & Engineering Co. Ltd. *Papers Am. Assoc. Textile Technologists 3*, 195-205 (Sept. 1948).

This is a discussion of Spooner processing machines and their efficiency in obtaining dimensional stability of spun rayon fabrics. The Spooner Washing Machine, Spooner Vertical Dryer, and a baking machine which is an adaptation of the dryer, are described. The results of numerous tests made on different fabrics are presented in tabular form.

Flame-resistant cellulose sheets. British Cellophane Ltd. Australian P 129-714, Nov. 2, 1945.

Regenerated cellulose sheet or film is rendered flame-resistant, durable and transparent under variable conditions of humidity and temperature by having incorporated therein at least 20% of

a salt of sulphamic acid, at least 10% of a hydroxylated softening agent, and at least 0.5% of a formaldehyde-yielding material, all by weight of the finished sheet. A preferred composition for a bath in which the regenerated cellulose sheet, either in the gel state or in a rewetted condition, is immersed, consists of: ammonium sulphamate, 12.5%; glycerol, 12.5%; formalin (37% formaldehyde) 5.4%; water, 69.6%.

Flexible wrinkle finish and process of making. Wm. A. Waldie (to New Wrinkle, Inc.). USP 2 455 540, Dec. 7, 1948.

In the manufacture of wrinkle-finish coating fabrics of the oilcloth type, it is generally considered necessary to heat the coated material in 2 batches and bake in 2 steps in order to obtain a uniform wrinkle finish. The present invention accomplishes the operation in one drying and one baking operation. Basically the invention includes a mixture of raw castor oil and dehydrated castor oil, with the usual dryer catalyst and a pigment paste. The oils and catalyst are mixed together and heated. The pigment paste is mixed separately and then added to the oil prepared in the first operation. The mixture is applied to the fabric which is then allowed to dry at room temperature and baked at 200°F.
LCL

Moistureproof sheet or film. Brit. Cellophane Ltd. Australian P. 130 084, Jan. 7, 1946.

An organic, non-fibrous, water-sensitive base sheet (e.g., regenerated cellulose) is made moistureproof by the addition of a surface coating composition comprising (a) a film forming agent, (b) a wax moistureproofing agent, and (c) a condensable or polymerizable, water-insoluble, organic solvent-soluble melamine-formaldehyde-monohydric alcohol resin or monohydric alcohol ether of methylolmelamine, condensed or polymerized by heat to yield the hardened insoluble form thereof. The preferred resin is melamine-formaldehyde-n-butyl alcohol or melamine-formaldehyde-iso-butyl alcohol.

Phenolic condensation products and treatment of material therewith. Tootal Broadhurst Lee Co. Ltd. Australian P. 130 150, Apr. 21, 1945.

To provide a phenol-formaldehyde condensation product with a molecular size such that it will effectively penetrate inside the fibers of cellulosic materials, a phenolic compound and formaldehyde are condensed in an aqueous solution with a caustic alkali catalyst, and the reaction is interrupted at a temperature below 65°C and

preferably between 57°C and 62°C.

Procedure for identifying formaldehyde-resin finishes on cellulose fibers and wool. R. Renishaenslin. *Ciba Rev.* No. 70, 2583-5 (Sept. 1948).

Simple tests are described for identifying urea-formaldehyde or melamine-formaldehyde finishes on cellulose and wool fibers. A high degree of accuracy may be obtained with the test if carried out with care and if impurities are removed or identified and allowed for.

Resin coated sheet material. Minnesota Mining and Mfg. Co. Australian P. 129 808, Jan. 2, 1946.

A sheet material characterized by flexibility, resistance to water and organic solvents, and high heat resistance comprises a base sheet coated or impregnated with a resinous composition formed by combining a major proportion of an organic-solvent-soluble, viscous, unsaturated, linear polyester type of alkyd resin with a substantial but minor proportion of compatible organic-solvent-soluble straight phenolic-aldehyde reaction intermediate. The base sheet may be fibrous or woven, films or foils of paper cellulose derivatives, glass or metal, and may be used for the production of sand paper, masking and adhesive tapes, wrapping and decorative sheets, and metal cans.

Ror process. Anon. *Textile Bull. 74,* 164, 167 (May, 1948).

A method of impregnating fibers in the form of rovings, yarns, weaves, and mats has been developed by Roger Cutler. Known as the Ror process, the system utilizes a water-borne emulsion of synthetic resins through which the material to be impregnated is passed and a battery of pusher rolls or aprons. In the case of tire cord, the material will gain from 8-11½% in gage and length during its progress through the battery. The material is then held at tension, to prevent hot air drying shrinkage, in a heat chamber. The Ror process does not stretch; it "sets" the fibers at their strongest point.

Shrinkage control of textiles. Am. Cyanamid Co. Australian P. 130 311, Mar. 21, 1946.

To control the shrinkage of textiles and textile-forming materials, whilst maintaining the tensile strength thereof, the fibers are impregnated with an aqueous dispersion of a curable alkylated methylol melamine and with urea and/or thiourea, in any desired order; the impregnated textile is then heated to dry the fibers and cure the resin to a water-insoluble condition.

Shrinkproofing wool. Montclair Research Corp. Australian P. 129 897. July 9, 1945.

Wool, either as raw wool, yarn, knit, woven or mixed goods, is treated to prevent felting and shrinkage whilst preserving a soft handle by immersion in a hot aqueous bath containing emulsion, a copolymer of a butadiene and a methacrylate ester, a noncationic emulsifying agent and a conditioning electrolyte. The bath while stable under ordinary conditions below pH 7, deposits to exhaustion on the fibres in the presence of wool.

Shrinkproofing wool. Montclair Research Corp. Australian P. 130 221, July 7, 1945.

Wool, either as raw wool, yarn, knit, woven or mixed goods, is treated to prevent felting and shrinkage while preserving a soft handle, by immersion in a hot aqueous bath containing in emulsion, a polymeric butadiene derivative and a noncationic emulsifying agent, which, while stable under ordinary conditions below pH 7, deposits to exhaustion on the fibers upon the addition of an electrolyte, in the presence of wool and at a temperature between 50°-100°C. Homologous polymers and copolymers of butadiene may be used, although butadiene —1.3 and its derivatives are preferred. One example of a conditioned bath used for 16.8 parts by weight of scoured knitted woolen goods, contains 200 parts water, 3.11 parts polymerized butadiene emulsified with sodium lauryl sulfate, and 7 parts sodium sulfate as electrolyte. Acetic acid is used to adjust pH, and an antioxidant (e.g., beta-phenyl naphthylamine) may be added.

Shrink-resisting wool in Britain. Anon. *Am. Wool Cotton Reptr. 63,* 54-5 (Jan. 13, 1949).

A brief discussion of 3 techniques used in Britain for producing shrink-resistant woolens include the dry gaseous chlorination treatment, the Perzyme treatment, and the Chlorzyme treatment.

Stocking treatment. Luis Heldmaier. Can. P. 445 056, Nov. 18, 1947.

This patent describes a method and apparatus for plasticizing stockings and other shaped textile articles. The articles to be plasticized are preboarded and passed through a plasticizing zone in which they are subjected simultaneously to the action of live steam and to additional heat from a source other than live steam. The apparatus comprises an endless conveyor for carrying the forms, a plasticizing chamber, means for supplying the live steam and additional heat, a drying chamber, and means for impregnating the articles prior to entering the plasticizing chamber.

Treatment of textiles and composition therefor.

Henry L. Van Mater (to Natl. Lead Co.). USP 2 457 853, Jan. 4, 1949.

The fabric is made water-repellent by impregnating with a solution of a double salt of zirconyl carbonate with ammonium or alkali carbonate and then treating with a soluble soap to form a zirconyl mono fatty-acid salt. The zirconium compounds thus applied to the textile materials are relatively inert to dry cleaning solvents and to soap solutions, and are placed upon the textile material in controlled and desired amounts.

Treating yarns and fabrics. Monsanto Chemical Co. Australian P. 129 680, June 27, 1945.

The tensile strength and finish is enhanced by applying to the yarn or fabric a colloidal aqueous solution of silica containing silica sol in an amount sufficient to supply from 0.1 to 5% of silica by weight of material, and then drying by exposure to temperatures of at least 200°F. Nylon sutures, having sub-microscopic particles of silica applied by this method, are also claimed.

Waterproofed and dyed cotton fabric. Great Britain. Ministry of Supply. (Material specification D.T.D. 336D; British Commonwealth Scientific Office Rept. 118-B1-107). July, 1946. 3 p. PB L 77815. *Bibl. Sci. Ind. Reports 6*, 982 (Sept. 12, 1947). Microfilm $1.00, Photostat $1.00.

Waterproofing plastic compositions. Jas. A. Bell (to Shell Development Co.). USP 2 457 518, Dec. 28, 1948.

This invention provides a waterproof plastic composition consisting essentially of 10-35% by weight of a dehydrated asbestos fiber, having a moisture content not exceeding 0.1% by weight, stable at temperatures up to at least 220°F, 25-55% by weight of a mineral lubricating oil, and 10-40% by weight of a water-insoluble soap made from a mixture of distilled fatty acids having 16 to 18 C atoms, and wool grease stearine. Fibers other than asbestos may be used, e.g. rock wool and cotton linters. Dehydration of the fibers is accomplished by heating them to a temperature between 80°F and 110°F above the boiling point of water, at atmospheric pressure or under vacuum. The composition thus obtained is easily mouldable in the hand, and is readily adhesive to wood, plastics, fabrics or metals; it is also nonconductive, due to the dehydration of the fibers, and is therefore suitable for the insulation of electric equipment of certain types.

TESTING AND MEASUREMENT G

THE TESTING OF YARNS AND FABRICS. Harry P. Curtis. 4th ed. London. Sir Isaac Pitman & Sons Ltd., 1948; 250 pp.; Price: 10/6.

Mr. Curtis is true to his word in giving a non-scientific coverage of his subject in everyday language . . . and drapers, laundrymen and even the general public will find much of interest in its pages. He takes up step by step from simple counting of ends and picks to the various stages of cloth analysis with all the practical short-term methods of finding out how a cloth is made which are based on practical observations and common sense. There are descriptions of all the likely types of counting glasses and more advanced apparatus for the same purpose. There are also practical descriptions of most of the standard types of testing apparatus—yarn breaking strength, rubbing and bursting cloth testers, fastness tests and so forth, including an account of most of the standard Goodbrand and Schopper testing machines, with illustrations.—*Silk & Rayon 22*, 1274 (Sept. 1948).

Clothing and fabrics G 1

Case history of a quality standard. Carol W. Moffett, Am. Standards Assn. *Standardization 20*, [formerly *Ind. Standardization*] 39-41 (Feb. 1948).

The history of committee work leading to the establishment of standards for sheets and pillow cases is reviewed. These standards cover breaking strength of warp and filling, maximum percentage of sizing, weight per square yard, number of stitches per inch in hems and seams, and test methods and tolerances, for each of 5 types of sheets. Dissemination of the standards by complete informative labels is proposed and urged, and the advantages of these and similar standards to producer, retailer, and consumer are stressed.

Estimation of small percentages of rubber in fibrous materials. Anon. *Dyer 100*, 137-8 (July 30, 1948).

This is an outline of 3 analytical techniques taken from a booklet published by the British Rubber Development Board:—(1) The destruction of the fiber by a chemical reagent which is without effect on the rubber, (2) The use of a solvent to remove the rubber without affecting the fiber, and (3) The oxidation, or more generally, the chemical modification of the rubber to render it more readily removable from the fiber

by extraction with a solvent or by dispersion with a detergent.

Instruments and instrumentation G 2

Abraser testing set. Anon. *Textile Age 12,* 86, 88, 90 (Dec. 1948).

The Taber abraser testing set for testing all types of surface finishes, woven textile fabrics, plastics, and organic coating is briefly described and illustrated.

Autographic stress relaxometer. Richard Stein, Textile Research Inst., and Herman Schaevitz, Schaevitz Engineering. *Rev. Sci. Instruments 19,* 835-9 (Dec. 1948).

Since the usual mechanical balances were found to be inadequate for studying the relationship between structure and mechanical properties of polymer samples ranging in properties from rubber-like to fiber-like materials, an autographic-gage-type relaxometer with suitable characteristic was designed and constructed. The force-measuring element is a linear variable differential transformer which measures the distortion of a flexible steel ring and drives a recorder. The sample is elongated to the desired length automatically, and the correct length is maintained by means of a second differential transformer.

Control of fading lamps with light-sensitive paper. Anon. *Tech. News Bull. Natl. Bur. Standards 32,* 87-8 (July, 1948).

Performance of the arc lamps commonly employed for fading tests on textiles has been variable, owing to variations in individual lamps and to voltage fluctuations which causes disproportionate changes in ultra-violet output. The Bureau of Standards has developed a light-sensitive paper which gives reproducible results when irradiated along with the test samples; exposure is continued until the paper has been affected to a standard degree. The "standard fading hour" now on trial was recommended by the Am. Association of Textile Chemists and Colorists and the ASTM, and agrees with the Fad-Ometer hour. Standardizing techniques for the paper have been developed, and its range is being broadened by further work.

Electron microscopy of wool fibers by a shadowed replica method. Anon. *Tech. News Bull. Natl. Bur. Standards 32,* 72-4 (June, 1948).

In the broad research program of the Natl. Bur. of Standards on the causes and nature of wear in textiles, a non-destructive technique has been developed for studying the surface of fibers by electron microscopy. A replica of the surface is prepared by pressing it into a heated thermoplastic film of ethylcellulose or polystyrene; the film replica is then "shadowed" with evaporated chromium. The fibers are recovered and can be further treated if desired. Micrographs of wool fibers indicate that the surface scales (cuticle) are covered by and imbedded in an amorphous lacquer-like substance. Pictures of fibers before and after damage by abrasion and by chlorination illustrate the technique and the results.

Evaluation of evenness tests. Anon. *Textile Industries 113,* 92-4 (Jan. 1949).

Evenness testers, such as the Saco-Lowell sliver tester, Uster evenness tester, and Pacific sliver and yarn tester, produce curves recorded in graph form. The planimeter is now being used to determine the average variation in percentage of these graphs and is replacing the laborious mathematical formulas for calculating results. A detailed explanation of the procedure using the planimeter is described and illustrated.

Fatigue test for tire cords. Gerald D. Mallory (to Wingfoot Corp.). Can. P. 445 025, Nov. 11, 1947.

This describes a method of testing tire cord which comprises embedding the cords in a rubber tubular member, bending the tubular member, inflating it and at the same time rotating it about its axis while in the bent condition. The air may be introduced under pressure and the pressure increased after a predetermined number of rotations (See also USP 2 412 524, Dec. 10, 1946, TTD: *4,* 66).

Pawl release for pendulum arms of testing machines. Robert W. Rogers & Chas. C. Blanch (to Scott Testers, Inc.). USP 2 459 134, Jan. 11, 1949.

By the use of a system of solenoids and switches applied to the standard form of pendulum type tensile strength tester, the pawls on the pendulum are kept free and only allowed to engage the toothed segment at the moment the test specimen breaks. The friction of dragging the pawl over the teeth as load is applied is thereby eliminated. HAM

Speeding cotton stapling. Jack Witherspoon, Robertshaw-Fulton Controls Co. *Textile Industries 113,* 87-90 (Jan. 1949).

The latest model of the Fibrograph is described. The sample is combed to lay the fibers parallel and the combed fibers are placed between a light source and 2 vacuum phototubes, which replace the photo-

voltaic cell of the original design. This light is balanced against the light received by a third phototube from an incandescent lamp. A length distribution curve is drawn on a card. Operation of the instrument is discussed and illustrated with photographs and a diagrammatic sketch. The technique of Fibrograph calibration is also described.

Strand testing. Saml. L. Ross (to Johnson & Johnson). USP 2 457 276, Dec. 28, 1948.

A machine consisting of upper and lower abrading devices in the form of simulated human teeth, abrades a strand of dental floss held under predetermined tension. The machine may be altered to test various cords or yarns with other types of abradents.
HAM

Tester for evaluating shedding of warp yarns. Wade Collier. *Bull. Southern Research Inst. 1,* 7-8, 12 (Fall, 1948).

The problem of warp sizing has been approached by the Southern Research Institute from the standpoint of reducing or preventing "loom shedding", and its studies of warp sizing have been directed at reducing the amount of cotton lint removed from the yarn during the weaving process. In order to evaluate this shedding, a shed tester was built which was designed on the theory that the 3 greatest abrasive forces involved during weaving are: (1) rubbing of the warps against each other, (2) sliding of the shuttle on the lower warps, (3) rubbing of the reeds during the beatup. The tester has eliminated the shuttle for operating reasons; it includes 2 harnesses and a short section of reed driven by an impact mechanism. The tester operates on 168 yarns at a speed of 3.6 in. per minute, corresponding to 172 strokes of the shuttle action. The machine is enclosed and a pan is placed beneath it to collect the shed material. Evaluations of yarn sizes are on a relative basis.
LCL

Web scanning device. Merton O. Bassett (to Gen. Electric Co.). USP 2 458 926, Jan. 11, 1949.

This patent describes a web scanning device comprising a chassis on which are mounted a lamp and a photoelectric tube separated by a partition to keep the direct rays of the lamp from entering the photoelectric tube. The light from the lamp is directed through a lens system secured to the partition to provide a sharply focused area or spot of light on a moving web. As arranged, the movement of the chassis moves the locus of the focal

point of light along an arc between selected positions so as to provide either diffuse or specular reflection of the light from the moving web. The point of pivot is so disposed with respect to the moving web that the light image incident on the web is in substantial focus at either the diffuse or specular position.

TEXTILE MILLS H

Achieves textile uniformity through instrumentation. Anon. *Am. Wool Cotton Reptr. 63,* 9-11 (Jan. 13, 1949).

Engineered industrial instrumentation, applied to textile processes, has been found to give precision results and uniform quality. The use of Taylor automatic controls at Dan River Mills in size preparation, on slashers, and on the continuous dye ranges is described.

Air conditioning in textile mills. E. Howlett. *Textile Mfr. 74,* 479-83 (Oct. 1948).

The fundamentals of air conditioning are reviewed, and the features of the Sturtevant system are described.

Automatic air line filter. Anon. *Am. Wool Cotton Reptr. 63,* 18 (Jan. 6, 1949).

A brief note is given of a new air line filter with a transparent plastic bowl that is claimed to give maximum protection to air-operated controls on slashers and humidifiers, and to the blow-off of the knitting device on Barber-Colman spoolers, Abbott winders, and blow-off hoses in weaving and spinning rooms.

Automatic inter-floor handling. Anon. *Am. Wool Cotton Reptr. 63,* 14, 50 (Jan. 6, 1949).

The use of monorail systems to improve materials handling methods in mills is discussed in relation to setting up the slasher creel interfloor movement of laps between pickers and cards, weighing warper yarn, etc.

Colonial Mills' new Clarksville plant. Anon. *Textile Bull. 74,* 107-8, 110 (Sept. 1948).

Among the outstanding features of the new filament rayon finishing plant of Colonial Mills at Clarksville, Va., are floors in the dyeing and finishing plant made of acid-resisting brick and a box culvert running the length of the plant for carrying off wastes from the dyehouse. The drainage system keeps the room dry and reduces vapors to a minimum. A .purification system has been installed for the removal of chemicals from wastes before being returned to the Roanoke River. The plant also features windowless construction.

Cotton looms. A. Belton Cobb, Am. Mutual Liability Insurance Co., & Ray Ketchmark, Natl. Safety Council. *Natl. Safety News 58*, 40, 42, 65, 66 (Aug. 1948).

Industrial Data Sheet D=T.6 is devoted to cotton looms. It is one of a series of such sheets on various topics published by the Natl. Safety Council. The hazards of loom operation are considered and suggestions for safe operation and for the construction of one type of shuttle guard are given. Reprints of the data sheet are available from the Natl. Safety Council.

Developments of patents on textile aids at the Hochst and Ludwigshafen plants. I. G. Farbenindustrie A. G. FIAT Microfilm Reel C 69; 63 items. 1936-1943. 394 f. PB L 17666. *Bibl. Sci. Ind. Reports 6*, 680 (Aug. 22, 1947). Microfilm $4.75, Enlargement print $39.50; *in German.*

Dust removed from air by new aero-dynamic filter treatment. Anon. *Silk & Rayon 22*, 1246 (Sept. 1948).

The Aerodynamic Dust Collector (Systeme Linderoth) announced by Musgrave & Co. Ltd., of Belfast, utilizes a new principle of separation. The filter surface consists of a specially slotted sheet, bent into the form of a cone. The air to be cleaned is passed over this surface at a high velocity; the slots are so formed that aerodynamic forces are set up which force the dust particles away from the cone face. The dust particles are suspended in the form of a thin cloud layer in front of the filter surface while the clean air escapes through the slots. There is little tendency for the filter to become clogged. The dust layer is carried out through a secondary collector for precipitation into a container.

European textile technology. C. W. Bendigo, *Textile World. Papers Am. Assoc. Textile Technologists 3*, 179-82 (Sept. 1948).

New textile machines and processes developed in Europe were observed during a recent trip abroad. Among the items noted briefly are: the Fayolle-Ancet circular loom, pick-finding mechanisms, dobbies operating from punched cards, the Uster uniformity tester, a Swiss system for high-pressure cooking of starch, carpet manufacturing operations, and improvements in knitting machines. The author observes that Germany can be forgotten about for some time as a major source of either textiles or textile machinery.

Fieldcrest goes Persians one better. Anon. *Textile Bull. 74*, 96 (Sept. 1948).

The Karastan Rug Mill, of Fieldcrest Mills, at Leaksville, N. C., is desiribed briefly, and the methods used in producing Karastan rugs are briefly noted.

German patent applications in the field of textiles. Reichspatentamt, Berlin. FIAT Microfilm Reel C 157; frames B 148-4122. 287 items. 1937-1945. 975 f. PB L 74390. *Bibl. Sci. Ind. Reports 6*, 749 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $97.50; *in German.*

Handling of materials in spinning and weaving mills. Rudolf Leimenstoll. *Melliand Textilber. 29*, 7-8 (Jan. 1948); *in German.*

A number of carts for transporting textile materials in the process of manufacture are described and illustrated.

Lubrication as it applies to the textile industry. Frazier M. Edwards, The Texas Co. *Textile Bull. 74*, 82-9 (June, 1948).

In an address, lubrication is discussed under the following topics: how the lubricant functions, laws of lubrication, fluidity, ball and roller bearings, oil lubrication, greases, cleaning and flushing of ball and roller bearings, pressure grease gun operation, oil-lubricated electric motors, variable-speed transmissions, air compressors, oilite bearings, opening room and picker room, card room, saddles, top rolls and roll stands, spindles, looms, slashing, dyeing, and storage and handling of products.

Maintenance of sewing machines. Harvey Russell, Wilcox & Gibbs Sewing Machine Co. *Textile Industries 113*, 135, 137, 139, 141 (Jan. 1949).

Care and adjustment of sewing machines are discussed as an aid of their maintenance. Suggestions are given for lubrication, needle and looper timing, stitch rgulation, feed adjustment, etc.

Materials handling aid to mill efficiency. Anon. *Am. Wool Cotton Reptr. 63*, 9-10, 50 (Jan. 6, 1949).

Increased productions with savings in time and labor are being obtained by the installation of proper materials handling equipment in mills. Examples of what is being done are discussed, including rayon beam handling at the U. S. Rubber plant at Scottsville, Va., use of the Twintainer, a new type of centrifugal extractor for dyed stock at the Locke Cotton Mills Co., Concord N. C., and others.

Mechanical handling in a tire cord mill. F. A. Westbrook. *Textile Mfr. 74*, 563, 565 (Dec. 1948).

Details of an overhead handling system installed in the new Deering, Milliken Co. mill at Clemson, S. C., are described. Beams 30" in diameter and

58" long, weighing up to 1,200 lbs. when filled, are moved from storage to the 64 twisters. Special creels are fitted on top of the twisters to accommodate the beams.

Metallizing in the textile plant. John E. Wakefield. *Textile Bull. 74*, 77-80 (Nov. 1948).

The application of metallizing to the repairing of textile machinery is described. The techniques employed in metallizing are discussed, and a number of applications in the picker room, card room, drawing frame, spinning room, slasher room, weave room, and finishing plant are noted. Metallizing has 4 distinct advantages: (1) speed of application, (2) versatility—over 30 metals are available in wire form for metallizing, (3) ability of sprayed metals to absorb and hold oil, and (4) low cost.

Methods of waste disposal in textile mills and dyeworks. Anon. *Silk & Rayon 22*, 860-1 (June, 1948).

Process costs and the expense of waste treatments may sometimes be cut down by reducing the volume of liquors produced. Opportunities for the production of useful by-products appear to be confined to the strong chemical wastes, such as from the rayon industry. Recovery of dyes has usually been found impractical because of their high degree of dispersion in waste liquors, but losses can be reduced by making spent baths up to strength or by using continuous dyeing equipment. When strong alkaline and acid wastes are produced, they may sometimes be combined to cause coprecipitation of the wastes. Chemical precipitation is the most widely used method of treating textile wastes, and $FeSO_4$ and lime usually work the best and are the most economical coagulents.

Miscellaneous reports on textiles. Anorgana G.m.b. H., Gendorf, Germany. (FIAT Microfilm Reel C 17; frames 18961-19761, 102 items). 1933-1944. 800 f. PB L 70346. *Bibl. Sci. Ind. Reports 6*, 728 (Aug. 22, 1947). Microfilm $6.00, Enlargement print $60.00; *in German.*

PB L 70346-S. Abstracts *in English* on the above item prepared by FIAT. Microfilm $3.00, Photostat $9.00.

New ductless system cuts air conditioning costs 40%. Byron A. Engelbach, New England Confectionery Co. *Factory Management & Maintenance 106*, 120-22 (Sept. 1948).

A novel air-conditioning system installed by the New England Confectionery Co. should be applicable in some textile mills. In order to expand existing air conditioning and relieve overloaded equipment without installing new ducts, individual ceiling-mounted cooling units were installed. In these, cooling water from a master loop removes sensible heat. Humidity control, independent of temperature, is accomplished with triethylene glycol absorbers or with vaporizing humidifiers. The glycol, which removes latent heat and part of the sensible heat, is reactivated with waste steam. Reasonable installation cost, low operating cost, waste steam use, and great flexibility characterize the system.

Planning and construction of modern full-fashioned hosiery mill. I & II. Saml. B. Lincoln, Lockwood-Green Engineers, Inc. *Textile Age 12*, 7, 10-11, 14 (Nov. 1948); 28, 30, 34, 39-40 (Dec. 1948).

The modern hosiery mill uses the one-story rather than the multi-story construction due to advantages of less vibration, easier expansion, etc. In addition to one-story construction modern hosiery mills are windowless to eliminate sun heat; the roofs and walls are thoroughly insulated to give more uniform temperature and humidity; long span roof trusses are used to eliminate interior columns; latest techniques of lighting and color are utilized to the best advantage; and noise reduction is accomplished by the use of acoustical ceilings. Planning of a new hosiery mill location, raw materials, labor, power, and ground utilization are also reviewed.

Radioisotopes for industry. A. P. Schreiber, Tracerlab, Inc. *Electronics 22*, 90-5 (Jan. 1949).

The industrial uses of radioisotopes are reviewed; applications of interest to the textile field are in dyeing and rayon manufacturing. Radioactivity can be of considerable assistance in controlling the concentration of the dye bath and the amount absorbed by the fabric. Continuous processing is particularly adaptable to this type of control. In rayon manufacturing, radioactivity makes possible the checking and controlling of sulfur removal in the coagulating bath. The application of lubricants to rayon may also be measured by use of radioisotopes. It is important that all radioactivity introduced directly into a product be removed, or that only small amounts of radioisotopes remain which have sufficiently short half-lives to insure that substantially no activity is present by the time the goods reach the consumer.

Safety 'round the clock. Anon. *Safety Eng. 97*, 22-4 (Jan. 1949).

This is a brief illustrated article on "a day in the

life of a safety supervisor" at the Marcus Hook plant of American Viscose Corp.

Silk industry. A. A. Turtschaninow. *Tekstil'naya Prom. 7,* 34-5 (Nov. 1947). (through *Chemisches Zentralblatt*); *in Russian;* abstract *in German.*

This is an account of the results of the techniques and organization followed under the Soviet regime. Improvements in the breeding and fabrication processes are also discussed.

Six-fold heating and ventilating system. Anon. *Textile Bull. 74,* 77-9 (July, 1948).

Six different kinds of heating and ventilating conditions are provided by a single gas-burning, direct-fired space heater, used with a special ductwork system. The system, designed by the Devoncraft Corp., New York City, uses a gas-fired Dravo Counterflo heater of 500,000 B.t.u. per hour capacity. Approximately 5,500 cu. ft. of heated or unheated air per minute can be handled with a discharge velocity of 2,000 ft. per minute. The system is used for (1) space treating the entire plant, (2) ventilating the factory during the summer, (3) heating air in winter for the drying of a neoprene base compound applied to the back of carpets, (4) providing fresh, warm air in the summer for this drying operation, (5) by increased temperatures up to 200°F, curing the neoprene component, and (6) purging the drying and curing room of heat and fumes after processing.

Speed control for electrical drives. R. B. Immel, Westinghouse Electric Corp. *Product Eng. 20,* 130-60 (Jan. 1949).

Loads used with electrical drives require a wide variety of torque, speed, and power characteristics. To provide these, there are available numerous types of variable- and adjustable-speed motor drives operating on DC or AC. This article presents 21 methods of electrical speed control, gives their speed range, speed change, horsepower, and other performance factors, and compares them both graphically and on a large reference chart. The data presented permit ready choice of control type for any driven load characteristic.

Springfield Woolen modernizes. Anon. *Textile Industries 113,* 96-7 (Jan. 1949).

The changes brought about in a program of planned modernization at the Springfield Woolen Mills, Inc. are shown in 2 drawings. The program is said to have cut costs, increased wages, and increased output.

Springs Cotton Mills' Grace Bleachery. Jas. T. McAden, Jr. *Textile Bull. 74,* 90, 92-4 (Nov. 1948).

This is a description of the Grace Bleachery; features of the plant and its equipment are noted.

Statistics and textiles. Jacob K. Frederick, Jr. *Bull. Lowell Textile Inst.,* Series 51, No. 3, Feb. 1948. 15 pp.

This is a discussion of the application of statistics to the textile industry, particularly with reference to quality control, establishment of specification for the buying and selling of goods, and the evaluation of experimental work. A short section is devoted to the defining of some fundamental terms used in statistics.

Technical equipment of the cotton industry. J. I. Glasgow & A. S. Balikowski. *Tekstil'naya Prom. 7,* 31-4 (Nov. 1947). (through *Chemisches Zentralblatt*); *in Russian;* abstract *in German.*

The mode of action and result of the equipping of the cotton industry with mechanized equipment under the soviet regime is discussed.

Textile machinery at Prague Autumn Fair. A Special Correspondent. *Textile Mfr. 74,* 514-5 (Nov. 1948).

Among the textile machines exhibited were: a high-speed beam warper with automatic creel, the new Hrdina automatic loom in the wide type model, the new design of Roscher automatic loom fitted with an electric dobby, and the Schneider automatic jigger.

Trichloroethylene. Anon. *Natl. Safety News 57,* 40, 42, 64 (June, 1948).

This is Industrial Data Sheet D-Chem. 27, one of a series compiled from many sources and published by the Natl. Safety Council. Data are given on the properties of trichloroethylene, its uses, shipping and storage, hazards to health, personal protective equipment, handling, ventilation, fire hazards, allowable concentration, symptoms of poisoning, first aid, and waste disposal. Fourteen references, from which the data were compiled, are given. Reprints of this data sheet are available from the Natl. Safety Council.

Unit loads—handling, shipment, storage. Anon. *Textile Bull. 74,* 153-6 (May, 1948).

By means of unit loads, i.e. handling the largest possible number of pieces in a single handling operation, economics in operating costs may be realized. There are 2 systems employing the unit load principle, (1) the lift truck skid platform

system, and (2) the fork truck pallet system. The relative merits of the 2 systems and their use in combination are discussed. Consideration is also given to the design and construction of pallets, pallet standardization, and the training of new operators.

Uxbridge automatic tacker. Anon. *Am. Wool Cotton Reptr. 63,* 66 (Jan. 13, 1949).

Selvedges may be more quickly and accurately aligned and fed into the sewing head by a new automatic tacker. Hand feeding of cloth is eliminated, and production of a single machine is doubled by this new tacker.

What's ahead in plant lighting. J. C. Forbes, Lamp Dept., Gen. Electric Co. *Factory Management & Maintenance 107,* 111-13 (Feb. 1949).

Industrial lighting trends are extrapolated, with predictions of (1) higher illumination levels (500-1000 foot-candles, (2) larger area light sources, (3) wider use of mixtures of light from mercury, incandescent, and fluorescent lamps, (4) more color for general lighting and for color matching and separation and (5) reduction of glare discomfort.

When industry moves to the country. Anon. *Factory Management & Maintenance 106,* 66-73 (Aug. 1948).

The establishment of new plants in small-town and rural communities is currently a growing trend, especially in the textile industry. The reasons are more favorable environment, a good and stable labor supply, better labor-management relations, lower military hazard, and new managerial and merchandizing techniques which favor decentralization. In this survey, case histories are presented of 2 companies which have successfully "ruralized": Munsingwear, Inc., with a series of small plants in converted buildings, each employing 50-250 workers on a single shift basis; and James Lee & Sons Co., with a modern plant at Glasgow, Va. employing 1500 workers on 3 shifts. Each company has found desirable a full cooperation with the community and consideration of employees' needs and wishes, along with considerable local autonomy in management. These policies, along with careful consideration of transportation and other plant needs, have made these ruralization moves notably productive and profitable; and the experience of these companies is by no means unusual in textile and other industries.

Why consider an adjustable speed drive. Anon. *Product Eng. 19,* 81-5 (Dec. 1948).

Adjustable speed drives permit increased production and improved product quality under variations of operating conditions, of the material being processed, of the work load, of the items being produced, and of the tooling. The first 3 of these, in particular, occur in the textile industry, and an example of adjustable speed drives to cope with them is electrical speed control on slashers. Investment in equipment may sometimes be reduced by increasing versatility of one machine type through adjustable speed drives.

Wool pickers. Werner W. Haardt, Natl. Safety Council. *Natl. Safety News, 58,* 39, 40, 61 (Dec. 1948).

Safe operating procedures and practices for wool pickers are covered in Industrial Data Sheet D-T.7, published by the Natl. Safety Council. Reprints of this data sheet are available from the publishers.

THE CARPET ANNUAL, 1948. London, British-Continental Trade Press Ltd., 1948. Price: 1£.

The latest edition of this well-known publication deals very thoroughly with practically every branch of carpet manufacture and distribution. The reference section has been enlarged and brought up-to-date, including a world directory of carpet manufacturers, wholesalers, importers, a buyer's guide, and a list of trade marks, etc. It is a very useful book.—*Textile Mfr. 74,* 599 (Dec. 1948).

THE MUSGRAVE POCKET BOOK. 5th ed. Belfast, Musgrave & Co. Ltd., 1948; 120 pp.; Price: 14/6.

Like the previous editions, this little book contains a wealth of practical physical and technical information for the engineer and particularly if he is concerned with industrial ventilation, air-conditioning, dust removal, heating or drying. General physical facts, conversion factors (metric to British), temperature conversion tables, logs and antilogs, areas and circumferences of circles, etc., are contained in the opening pages, followed by standard steel plate and sheet metal gages and weights, steel piping in lbs. per foot, etc. Properties of air, moisture absorption, volume pressure factors for various temperatures, etc., are followed by tables showing pipe proportions for blowing installations, frictional resistance of air ducts and air pipe capacities. There are detailed notes on centrifugal fans and capacity tables for the whole range of Musgrave fans. There are also notes on propeller fans, fan testing, heating, heat transmission factors, capacity tables for Musgrave air heaters, unit heaters, etc. There is also much

useful information on industrial drying, combustion and boiler efficiency and current requirements of electric motors.—*Silk & Rayon 22,* 1274 (Sept. 1948).

PEPPERELL'S PROGRESS; HISTORY OF A COTTON TEXTILE COMPANY, 1844-1945. (Harvard Studies in Business History XIII). Evelyn H. Knowlton. Cambridge, Mass., Harvard Univ. Press, 1948. 511 pp.

THE RAYON YEAR BOOK. Arnold Hard. London, United Trade Press, 1948; 223 pp. Price: 20/–.

This little book is divided into three parts—A Rayon dictionary. The Story of Rayon, Directory of Organizations. The dictionary contains many useful explanations of textile terms considerably wider in scope than the rayon industry. There are notes on the various rayon processes and definitions of many types of fabrics—rayon and otherwise. Part two is re-written from Mr. Hard's well-known book *The Story of Rayon* with certain additions to bring it up to date. His historical investigations into the work of numerous pioneers always make fascinating reading. The Directory of Trade Organizations is an extensive list of names, addresses and officials of employers' associations, trade unions, manufacturing, wholesale, retail and research organizations, many of which are only remotely, if at all, connected with rayon, as for example the several raw cotton associations and the Wool Secretariat.—*Silk & Rayon 22,* 904 (July, 1948).

CHEMISTRY AND PHYSICS OF TEXTILE MATERIALS I

BRITISH PLASTICS YEAR BOOK 1948. London, Iliffe & Sons Ltd., 1948; 478 pp.; Price 30s.

A classified guide to the plastics industry throughout the world and in England particularly, this book contains a great fund of useful information to those in the industry. The publishers have included lists of raw materials, manufactured products, types of engineering and chemical equipment available, proprietary names and technical terms, names and addresses of organizations connected with the industry, a list of prominent people in the industry, details of organizations connected with the industry, and technical and general data applicable to the industry.—*Plastics 8,* 6 (Oct. 1948).

Cellulose ester preparation. George W. Seymour & Blanche D. White (to Camille Dreyfus). Can. P. 445 395, Dec. 2, 1947.

A process for the preparation of mixed esters of cellulose containing both the formyl and acetyl radicals comprises esterifying cellulose with formic-acetic anhydride prepared by reacting formic acid with acetic anhydride in the presence of sulfuric acid as esterification catalyst.

THE CHEMISTRY OF HIGH POLYMERS C. E. H. Bawn. London, Butterworth & Co., 1948. 249 pp.; Price: 17s. 6d.

Other more comprehensive and detailed books dealing with the chemistry of high polymers are, of course, available, but full appreciation of them requires a good basic understanding of the subject. Dr. Bawn has therefore rendered a valuable contribution in selecting the salient points of the fundamentals common to the study of all macromolecules, and his arrangement and treatment of them. After an introduction on the nature and types of polymers, the author proceeds to give a more detailed account of the principles of the two kinds of polymerization, namely, condensation and addition. The remaining chapters speak for themselves: they cover thermodynamics of solutions; size and shape of macromolecules; structure, stereo-chemistry and crystallinity; and, finally, that very absorbing subject, the relationship of structure and properties.—*Brit. Plastics 20,* 610-11 (Dec. 1948).

Dimension of charged long chain molecules in solutions containing electrolytes. J. J. Hermans & J. T. G. Overbeck. *Rec. trav. chim. 67,* 761-76 (Nov. 1948); *in English.*

This is a theoretical discussion which has possible applications to the development of specific types of textile fibers. If a long chain molecule in a solution carries electrical charges, the statistical coil is inflated, and the average square of the distance between the ends of the chain is larger than in the uncharged state. For a number of properties, the determining factor is the value of $\Sigma_c\ (R_c^2)_a$, where R_c is the distance between the c'th link in the molecule and the center of gravity. This quantity is proportional to the square of the effective radius and is related to the square of the distance between the ends by a simple formula, provided the radius of the coil is small compared with the length of the extended chain. The electrical free energy of the molecule is derived as a function of effective radius on the assumption that no electrolytes are present. This free energy determines the average dimensions of the coil. A similar theory is developed for charged polymer molecules in the presence of electrolytes. The change of the effective radius with the charge on

the polymer and the concentration of the electrolytes is calculated. In the limit of high electrolyte content, the equilibrium between the interior and the exterior of the polymer coil may be considered as a Donnan equilibrium.

Inhibition and retardation in polymerization reactions. H. W. Melville & W. F. Watson. *Trans. Faraday Soc. 44*, Part II, 886-905 (Nov. 1948).

A description is given of experimental measurements made with various polymer reactions to study the phenomena of inhibition, retardation, and copolymerization in these reactions. The data and discussion of these effects should have application in the development of synthetic fibers. Data is presented with regard to the effect of retarders of the quinone type on thermal- and peroxide-catalyzed polymerization of styrene and the peroxide-catalyzed polymerization of methyl methacrylate. In the case of styrene it is shown that quinone completely suppresses the thermal polymerization but only retards the peroxide-catalyzed polymerization. In the quinone-retarded peroxide-catalyzed polymerization of methyl methacrylate, the rate is proportional to the square root of peroxide concentration.

Publications in the field of textile chemistry. Anorgana G.m.b.H., Gendorf, Germany. FIAT Microfilm Reel B 12; frames 19628-21381. 150 items. 1937-1944. 876 f. PB L 70513. *Bibl. Sci. Ind. Reports 6*, 729 (Aug. 22, 1948). Microfilm $6.00, Enlargement print $26.00; *in German.*

PB L 70513-S. Abstracts *in English* on the above item prepared by FIAT. 2 p. Microfilm $1.00, Photostat $1.00.

Quantitative determination of cellulose by oxidation according to the bichromate method. K. Windeck-Schulze & J. Peiper, Textile Research Inst. Krefeld. *Melliand Textilber. 29*, 20-3 (Jan. 1948); 55-57 (Feb. 1948); *in German.*

The bichromate method for the oxidation of cellulose devised by W. Zimmerman (*Melliand Textilber. 23*, 73 (1942) was investigated. It was found that potassium ferricyanide can be used as an indicator in place of ferroin (tri-o-phenanthroline-ferro-complex) which is sensitive to acid and to high temperatures. By changing the time and the temperature used for the hydrolysis and the composition of the hydrolyzing reagent, good reproducibility, averaging about 97% of the cellulose present was obtained, using ferricyanide as a spot indicator. A correction of about 3% was added to give the total. Ferroin could be used as

indicator for the cellulose titration at lower temperatures and concentrations and by adding it only when wear the end-point. The correction factor for ferroin was found to be about 2.5%. Details of the procedure are given.

TECHNICAL DATA ON PLASTICS. Washington, D. C., The Plastic Materials Manufacturers Assn., Inc., 1948; 141 pp.; Price: $2.50.

The purpose of this book is to acquaint its user with the properties which characterize the various commercially available plastics. Many types of plastics are discussed, with such information given as chemical composition, methods of manufacture, and fabrication, typical end uses, manufacturers, trade names and limitations of the material. When practicable, curves showing the effect of temperature, humidity or other variables on specific properties were added to the sections on each plastic.—*Plastics 8*, 6 (Oct. 1948).

Viscosity-molecular weight relation for poly-levo-2,3-butanediyl o-phthalate. R. W. Watson & N. H. Grace. *Can. J. Research 26*B, 783-97 (Dec. 1948).

The inherent viscosities of fiber-forming acidic polyesters have been compared with number-average molecular weights determined by end-group titration. For unfractionated resins with degrees of polymerization from 2 to 11 (D.P. 2 to 11) in chloroform at 25°C, the viscosity is directly proportional to molecular weight. For fractionated polyesters from D.P. 5 to 8, this is also true. For unfractionated resins with a D.P. >11, molecular weights increase more rapidly than inherent viscosities. Above a number-average molecular weight of 14,000 for fractionated resins, the direct proportionality is resumed, and the slope increases. Apparently the short chains remain linear, and the formation of anisotropic fibers at a D.P. close to 100 establishes a degree of molecular orientation in the long chain superpolyesters. Isomerization of levo-diol to the disterioisomer during polycondensation is without effect on the dilute solution viscosity of the resulting resin. Preferential degradation of the longer chains is assumed to be partially responsible for the decreasing slope of the viscosity-mol. weight curve observed in the range D.P. 11 to 65.

TEXTILE EDUCATION AND RESEARCH J

Unusual laboratory meets unusual needs. Anon. *Rohm & Haas Reptr. 6*, 10-13 (Nov. 1948).

Laboratory Sixteen, of the Rohm and Haas Co., is

a multipurpose laboratory equipped for basic research, product application, and sales-service work. The type of problems studied and the equipment used are discussed. A curing oven, capable of taking pin frames as large as 4 by 5 ft., was specially constructed for the laboratory; its four-inch-thick insulating walls are barely

warm when the oven is heated to 350°F for hours. Other pieces of special equipment include a launderometer, a padder, a textile printing machine, a package yarn dye unit, fadometer, and a yarn machine for warp sizing and other work with threads not in package form.